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CITY OF WINNIPEG

REPORT

OF THE

City Health Department

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FOR THE YEAR ENDING
31st DECEMBER
1924

CITY OF WINNIPEG

REPORT

of the

City Health Department

FOR THE

YEAR ENDING 31st DECEMBER

1924

COMMITTEE ON HEALTH
1924

Alderman W. B. Simpson, Chairman
Alderman A. H. Pulford
Alderman A. R. Leonard
Alderman E. T. Leech
Alderman F. H. Davidson
Alderman T. Boyd
Alderman J. Simpkin
Alderman H. Jones
Alderman J. A. Barry
His Worship Mayor S. J. Farmer
(ex-officio member)

STAFF

(December, 1924)

Medical Health Officer

A. J. Douglas, M.D.

Laboratory

Bacteriologist—M. Finkelstein, M.D.
Assistant—Miss M. Wilson
Laboratory Boy—H. Robinson

District Physicians

W. Turnbull, M.D.
O. C. Dorman, M.D.
E. H. Alexander, M.D.

Dental Clinic

Dr. A. S. MacKenzie, Dentist

Sanitary Inspections Division

Chief Inspector—E. W. J. Hague
Smoke and Supervising Inspector—P. Pickering
Inspector—S. J. Scheving
" —O. S. Oliver
" —J. Foggie
" —R. McQuillan
" —A. Aitken
" —J. Shepherd
Interpreter-Inspector—J. Miller (Retired, September 15th)
Inspectors' Clerk—W. Hanby

Tenement and Supervising Inspector—A. Officer
Supervising Inspector—D. Little
Inspector—C. W. Chisholm
" —B. C. Brough
" —J. McHardy
" —A. Barclay
" —F. C. Austin
" —T. J. Booth
Clerk—G. Duffield

Communicable Diseases Division

Chief Inspector—W. J. T. Watt
Inspector—G. Hanby
" —A. Paull
" —C. H. Hargrave
" —H. H. Marshall
" —H. G. Triggs

Tuberculosis Nurse—Miss K. Vanetta
" " —Miss B. M. Gray
" " —Miss A. G. Luke
" " —Miss H. Smyth
Record Clerk—Miss W. G. Aldham
Clerk—G. Moore

Division of Records and Statistics

Secretary—A. G. Lawrence
Stenographer-Clerk—Miss L. Gransden

Stenographer-Clerk—Miss M. M. Ryan
Stenographer—Miss C. B. Morden

Bureau of Child Hygiene

Attend. Physician—R. F. Rorke, M.D.
" " —F. G. Schwalm, M.D.
Manager—A. G. Lawrence
Nurse—Miss M. M. Wonnacott
" —Miss A. J. Attrill
" —Miss L. Spratt
" —Miss C. Maddin
" —Miss A. Moore
" —Miss C. Munro
" —Miss L. A. Schwalm
" —Miss E. A. Bennett
" —Miss M. Harper
" —Miss M. McCallum (resigned Oct. 4th)
" —Miss P. K. Brandson (resigned April 22nd)
" —Miss K. C. Montgomery (resigned Nov. 15th)

Nurse—Miss M. M. Macrae
" —Miss M. Wilkins
" —Miss M. I. Jephson
" —Miss H. Carter
" —Miss C. Thom
Dietitian—Miss A. Graham
Assistant—Mrs. J. McDonald
" —Mrs. H. Twist
" —Mrs. A. Gibson
Caretaker—W. G. Cowley
Asst. Dispenser—Mrs. A. Johnson (resigned April 15th)

Dairy Division

Chief Inspector—E. C. Brown
Inspector—F. Hudson
Creameries Inspector—F. Lutley
Veterinary Inspector—E. S. Bowman, V.S.

Food Division

Chief Inspector—A. Rigby
Inspector—A. W. Foote
" —G. R. Mines

Report of the Medical Health Officer

City Health Department,
Winnipeg, Man., March 25th, 1924.

Chairman and Members of the
Committee on Health.

Gentlemen:

I have the honor to submit for your consideration the report of the Health Department for the year 1924. This includes the reports of the heads of divisions, and a statement of the cost of the year's work.

Statistics

The number of deaths, excluding stillbirths, was 1,544. Assuming the population to be 194,850 (City Assessor's figures), this gives a gross death rate of 7.78, the lowest rate that we have on record. Indeed, a few years ago such a rate would have been considered scarcely possible. It is as near correct as can be hoped for in figures of this kind.

Probably many factors have contributed to produce this rate; certainly the reduction in tuberculosis, typhoid fever and diphtheria deaths and in infant mortality, has been an influence in lowering the general mortality rate.

The number of deaths in children under one year of age was 323, giving a mortality rate of 67.8 per 1,000 living births. This is the lowest rate we have on record and is an improvement of twelve points over last year's figure.

It is to be noted that the majority of infant deaths now occur, not from gastro-intestinal affections, but from pulmonary diseases, inanition, prematurity and congenital physical defects, and they occur shortly after birth, usually during the first or second week. The problem of preventing these deaths seems to be the one to be attacked now and it presents many difficulties. Pre-natal care and instruction have a valuable function here. The statistics of the Winnipeg General Hospital Pre-natal Clinic, which are to be found in another part of this report, are pertinent in this regard.

The number of births, excluding stillbirths, was 4,762, giving a birth rate of 24.44. In examining the birth rates for the past twelve years, it is apparent that a steady decline is taking place. Possibly economic conditions may be partly responsible for this.

Details regarding deaths and births will be found in the report of the Statistician and should be studied to obtain a better appreciation of the changes and variations which have taken place during the last ten years.

Financial Statement for the Year 1924
Departmental Expenditures

C-1. Administration and Statistics (Controllable)—			
(a) Personal Services	$	11,578.00	
(b) Outside Services		176.15	
(c) Material, Supplies and Repairs		346.20	
(d) Equipment, Additions and Replacements		113.27	
(f) Other Expenses		150.00	
			$ 12,363.62
C-2. Bacteriological Laboratory (Controllable)—			
(a) Personal Services	$	6,036.00	
(b) Outside Services		49.90	
(c) Material, Supplies and Repairs		922.36	
(d) Equipment, Additions and Replacements		98.48	
(e) Fuel, Water, Light and Power		90.62	
			7,197.36
C-3. Treatment and Prevention of Communicable Diseases—			
C-3-1. Acute Communicable Diseases (Controllable)—			
(a) Personal Services	$	13,704.00	
(b) Outside Services		162.75	
(c) Material, Supplies and Repairs		510.29	
(d) Equipment, Additions and Replacements		303.50	
			14,680.54
C-3-2. Tuberculosis (Controllable)—			
(a) Personal Services	$	5,289.38	
(b) Outside Services		1.00	
(c) Material, Supplies and Repairs		1,272.35	
(d) Equipment, Additions and Replacements		189.50	
			6,752.23
C-3-3. Smallpox and Diphtheria Prevention (Controllable)—			
(b) Outside Services	$	2,182.33	
(c) Material, Supplies and Repairs		882.73	
			3,065.06
C-3-4. Automobile Services (Controllable)—			
(b) Outside Services	$	242.73	
(c) Material, Supplies and Repairs		637.21	
(d) Equipment, Additions and Replacements		12.00	
			891.94
Total Controllable			$ 25,389.77
C-3-5. Fixed Charges on Debenture Debt (Uncontrollable)—			
(i) Interest	$	600.00	
			600.00
Total Treatment and Prevention of Communicable Diseases			$ 25,989.77

C-4. Sanitary Inspection (Controllable)—

(a) Personal Services	$ 33,281.50	
(b) Outside Services	52.50	
(c) Material, Supplies and Repairs	403.39	
(d) Equipment, Additions and Replacements	875.97	
		$ 34,613.36

C-5. Food and Dairy Inspection (Controllable)—

C-5-1. Dairy Inspection—

(a) Personal Services	$ 8,586.00	
(b) Outside Services	936.00	
(c) Material, Supplies and Repairs	286.79	
(d) Equipment, Additions and Replacements	213.50	
		$ 10,022.29

C-5-2. Food Inspection—

(a) Personal Services	$ 6,666.00	
(b) Outside Services	36.00	
(c) Material, Supplies and Repairs	52.98	
(d) Equipment, Additions and Replacements	135.45	
		$ 6,890.43

Total Food and Dairy Inspection ..... $ 16,912.72

C-6. Child Welfare (Controllable)—

C-6-1. Babies' Milk Depot—

(a) Personal Services	$ 4,307.97	
(b) Outside Services	4,071.71	
(c) Material, Supplies and Repairs	3,213.85	
(d) Equipment, Additions and Replacements	59.10	
(e) Fuel, Water, Light and Power	1,019.89	
		$ 12,672.52

C-6-2. Visiting Nurses—

(a) Personal Services	$ 19,509.93	
(c) Material, Supplies and Repairs	64.39	
(d) Equipment, Additions and Replacements	608.40	
		$ 20,182.72

Total Child Welfare ..... $ 32,855.24

C-7. Medical Relief (Controllable)—

C-7-1. District Physicians—

(b) Outside Services	$ 1,216.50	
(c) Material, Supplies and Repairs	407.32	
		$ 1,623.82

C-7-2. Dental Clinic—		
(b) Outside Services	$ 2,090.00	
(c) Material, Supplies and Repairs	3.78	
		$ 2,093.78
Total Medical Relief		$ 3,717.60
Gross Departmental Expenditure		$133,649.67

Revenue

(Credited to City's Revenue Account)

Police Court Fines and Costs	$ 283.25	
Fees for Fumigation	10.25	
Fees for Laboratory Work	264.50	
Sale of Infants' Feedings at Milk Depot	1,653.55	
		$ 2,211.55
Net Departmental Expenditure		$131,438.12

Cost Per Capita

(Population, 194,850)

Gross Departmental Expenditure per Capita	68.6
Net Departmental Expenditure per Capita	67.4

Communicable Diseases

Morbidity and mortality rates from notifiable diseases will be found in the report of the Division of Communicable Diseases. The year has been on the whole a satisfactory one from the standpoint of prevalence and we have not had to contend with any extensive outbreaks, as was the case last year.

Typhoid fever furnished 36 cases and 6 deaths, against 26 cases and 5 deaths in 1923. Eighteen of these cases received their infection from points outside the City. A group of six cases occurring among the employees in a large local institution was of interest. This appeared to indicate a common source of infection, but what this was baffled investigation and proved impossible of detection. An intensive study was made of this group of cases, but all efforts to trace its origin proved vain. The infection, wherever it came from, was apparently a massive one and the type was severe. It is of interest to note that one of the individuals attacked gave a history of having had typhoid fever previously. A group of ten cases originated at a summer resort. An individual at this resort kept a small store and restaurant. His wife contracted typhoid fever while away from home, and, when her illness developed on her return, she remained in the building in which the store and restaurant were situated, where she was attended by her husband who at the same time continued to operate the store and sold raw milk to campers and persons visiting the resort. The ten cases occurred among customers who drank milk purchased at this store. Those affected were residents of

Winnipeg and its suburbs; the disease developed after their return home. Two cases occurred in a home following an unrecognized case. There were six deaths from typhoid, giving a rate of 3.1 per 100,000 population; the corrected rate, eliminating non-residents and cases contracted outside the City, is 1.0.

The past year has duplicated the record of its predecessor in furnishing an extremely unsatisfactory situation as regards smallpox. There were 126 cases with no deaths, against 121 and no deaths in 1923. It would appear that smallpox incidence is slowly but steadily increasing from year to year and it is evident from our vaccination statistics that a part at least of our population are indifferent or opposed to this most important preventive measure. We have year after year adverted to this subject and pointed out that a time is coming when smallpox of a severe type will get a foothold among our people and leave behind it a trail of dead and disfigured victims. Smallpox of a virulent type made its appearance in quite a number of places on the continent during the year 1924 and was responsible for many fatalities. In late autumn and early winter it was present in the State of Minnesota, right next door to us, and we were lucky to escape an invasion. We will not always be so fortunate, and our unvaccinated are a menace to themselves and the community. We can only express the hope that has been expressed in previous reports, that it may not require a visitation, similar to those which have occurred in some other localities, to make our citizens appreciate the importance of a prophylactic of world-wide application and proven efficiency. Of our 126 cases, 105 occurred in persons who had never been vaccinated; 21 others had been vaccinated, but in no instance had this been successfully performed within ten years of the attack of smallpox. The type was mild but entirely characteristic; there were two exceptions to this. A more severe strain developed in two cases, the source of whose infection was from outside the City. Both of these were confluent in character, with very severe constitutional symptoms which threatened life. One group of six cases had its origin in a party to which one of the guests brought a friend who was a stranger to the host. This stranger was just recovering from a slight illness, characterized by what was described as an attack of grippe, followed by an eruption of pimples, to which no particular attention had been paid. About thirty persons participated in the festivities and six of them forgathered later in the Smallpox Hospital.

Chickenpox prevailed extensively throughout the year; 1,120 cases were notified, an unusually large number. The presence of these increased our work greatly, as everyone had to be carefully investigated to exclude the possibility of smallpox. The old idea that chickenpox is mild and smallpox severe still seems to be very common, and on several occasions we found cases which had been notified as chickenpox to be quite characteristic examples of smallpox.

We expected a light year for measles after the very extensive outbreak of 1923, when 4,693 cases were notified. Our hopes were not realized, as 913 cases were reported. Increased prevalence became apparent during March in the north end of the city, spreading to Elmwood, and the central districts during April and May; it reached its peak in June with 290 cases. Four deaths

occurred from this disease during the year. To complicate the measles situation there was a coincident outbreak of German measles. This disease is not a notifiable one under the Provincial Health Act so it is impossible to give even approximate figures as to numbers of cases. We know, however, that many cases reported to the Department as measles, by parents and others, upon investigation turned out to be German measles.

It is gratifying to be able to make one of the most satisfactory reports on diphtheria on record. Eight hundred and eighty-five cases were notified, with 22 deaths, against 1,285 cases and 34 deaths for 1923. This is our lowest number of cases since 1916 and our lowest death rate for 15 years. From the total of 885 cases should be deducted 107 cases from outside points, leaving 778 cases as having had their origin in the City. There were 88 secondary cases or 9.9 per cent. of the total, against 9.3 per cent. for the preceding year. There was only one return case after hospital treatment, a very fine showing considering the large number of cases cared for in this institution. Persistent culturing of contacts in homes and school rooms where cases occurred undoubtedly had a great influence in controlling carriers and locating unrecognized cases. Carriers numbered 430, and unrecognized cases 34. During the month of October we experienced a small outbreak in the Fort Rouge district which had for its origin a number of unrecognized cases of mild nasal diphtheria. In one instance we found a number of children of pre-school age, carriers of virulent bacilli, playing outdoors apparently unaffected, who transmitted their infection to others who developed clinical diphtheria. As a routine measure we again cultured children leaving the City for summer camps maintained by various organizations. This brought to light a number of carriers.

We distributed over five million units of antitoxin during the year, which was provided by the Provincial Board of Health. Most of this was furnished to persons unable to pay for it, but we made an effort to collect whenever possible, and in this way were able to get in six hundred and ninety-four dollars and seventy-five cents. We found a good deal of difficulty collecting this amount; it was an unsatisfactory business in some respects. We hoped that we would be able to get in more money. In certain instances payment was refused where we considered the people receiving the antitoxin were able to meet the obligation. We do not wish to throw obstacles in the way of any person obtaining antitoxin who requires it, and, for my own part, I should prefer to see all antitoxin that is given out by the Department given free than that anyone should suffer through not getting it.

During 1923, with the limited appropriation at our disposal, we were only able to Schick test and administer toxin-antitoxin to the pupils of three schools selected for this purpose. With an increased appropriation for 1924 we were able to extend this service.

The Medical Inspection Department of Schools co-operated with us by providing nurses at the schools where the work was undertaken. They also issued literature to parents, consent cards and history cards. Children in grades under grade four were selected and schools north of the C.P.R. tracks were given first preference. The schools in the poorer districts responded best. The average number of consent cards returned signed by parents was 57 per

cent. of the total. The percentage of negative Schicks in each school ranged between 32 and 56 per cent., or an average of 44 per cent. over the twelve schools visited. A table will be found in the report of the Division of Communicable Diseases, giving full details of the work accomplished. Besides this, a great many children were treated by their family physicians, who were furnished material for the Schick test and toxin-antitoxin by this Department. The attending physicians of certain homes for children have also availed themselves of this service and have immunized the inmates of these homes. Today we stand in a stronger position in the fight against diphtheria than we have ever stood before in the history of the City. The effect of immunizing a large number of susceptibles, in districts where diphtheria has been prevalent, is already noticeable in our lowered morbidity and mortality rates for this disease. As time goes on and the work proceeds, these rates will be brought very much lower than they are today. This means that our efforts must not be relaxed and that the campaign of immunization must be carried on year after year. We wish it were possible to go further and should like to reach more children of pre-school age. This is the age period of greatest fatality from diphtheria. The situation, however, is distinctly more hopeful than it was before the advent of the Schick test, and the use of toxin-antitoxin. One of the most satisfactory features of it is that more people seem to be coming to an understanding as to what diphtheria is and how it can be prevented and cured.

There is nothing unusual to report about scarlet fever; there has been a steady decline in this since 1919. Five hundred and eighty-three cases were notified with 11 deaths. There was no demonstrable milk-borne outbreak; contact appeared to be the means by which infection was spread. There were two outbreaks associated with school classes and subsequent contact with children of pre-school age. We were able to apply preventive measures early in each of these groups of cases and neither reached large proportions. Of the total number of cases, 14.2% were secondary ones. Many of these occurred through ignorance and carelessness, resulting in neglect to have the case diagnosed and the patient isolated. There were eleven return cases after a patient had been discharged from hospital.

During the year the Dicks made public the results of their researches as to the cause of scarlet fever, their method of identifying susceptibles, and their recommendations for bringing about immunity. It would appear that an important preventive measure for scarlet fever has been discovered, which should have a far-reaching effect in controlling the disease. This Department did not undertake any practical application of the Dick methods during 1924, but we hope during the coming year to make a start. Immunization of children who are inmates of homes and institutions would put an end to the possibility of the introduction of a disease which has been a serious menace and has presented great difficulty in control.

Tuberculosis continues to decline. There were recorded 183 cases of tuberculosis of the lungs with 87 deaths, against 204 cases in 1923 with 96 deaths, giving rates of 44.6 and 48.2. There were 9 deaths of non-residents, against 14 deaths in the previous year. Deaths from tuberculosis of all

forms numbered 120, against 128 in 1923. Sources from which cases were reported were as follows:

Winnipeg General Hospital Clinic	42
King Edward Memorial Hospital	46
Ninette Sanatorium	35
City Health Department Laboratory	10
Local Physicians	22
Death Registrations	16
Non-residents sent into the City	12

Our tuberculosis rate is now one of the lowest of any City of our size on the continent and should be a matter of satisfaction to every resident of Winnipeg. Of course, many causes have been at work over a period of years to produce this rate. Ten years ago we would hardly have dared to hope for such a reduction as has taken place—nearly thirty points. Probably factors have been at work of which we know nothing, but the intensive effort which has been put on control of this disease, by special hospitals, sanatoria and preventoria, by nurses and societies for the prevention of tuberculosis, by making the milk supply safer, by the enactment of better laws governing construction of habitations and housing, by education in its many phases, by special regulations for the control of this disease which have been carried out by health departments throughout the country, is now being made manifest. Today not so many sources of infection of tuberculosis are uncontrolled as there were a few years ago and susceptible persons do not have so many opportunities of contracting infection as formerly.

As time goes on and the number of foci of infection grows less, I think we may fairly hope for lower rates still. The decline in tuberculosis is of great economic importance, and the results attained so far have more than justified any expenditures of money and effort that have been made.

The same agencies for tuberculosis control which have been referred to in last year's report have carried on faithfully throughout they year. The clinics at the Winnipeg General, King Edward and the Children's Hospitals, gave excellent service and the Anti-Tuberculosis Society again carried on its beneficent mission in providing necessaries for patients. In last year's report reference was made to the elimination of tuberculosis from our dairy cows. This work has been continued by the Dominion Government throughout the year. Full particulars of the work done and the present condition of the milk supply will be found in the report of the Chief Dairy Inspector.

Lethargic encephalitis still continues with us to a very limited extent, eleven cases and ten deaths were notified. The cases were not connected in any way with a known source of infection.

Anterior poliomyelitis was not prevalent throughout the year. Thirteen cases and three deaths figure on our list. The origin of these was not apparent and no secondary infection took place.

A satisfactory drop occurred in whooping cough and we are able to report one of the lowest rates we have on record, four hundred and thirty cases with seven deaths, the rate being 3.5 per 100,000 population.

The Venereal Disease Clinic maintained by the Provincial Board of Health carried on throughout the year. Particulars of the work will be found in the report kindly furnished by the Board which follows:

Report of the Dispensary for Venereal Disease, 705 Boyd Building, Winnipeg

During the year 1924, 2,142 patients were examined. Of these 1,323 were cases of venereal infection who received treatment, the balance being non-venereal patients who were admitted for examination as to their freedom from infection; 370 were cases of syphilis and 953 were cases of gonorrhoea.

There were 193 new cases of syphilis and 832 new cases of gonorrhoea, the remainder having been carried forward from the previous year.

Syphilis—Of the 370 suffering from syphilis, 226 were male, 126 female, 18 children under twelve years of age (10 boys and 8 girls) suffering from congenital syphilis. Fourteen hundred and forty-three blood examinations for syphilis were made during this time and 5,316 treatments given.

Gonorrhoea—Of the 953 cases of gonorrhoea, 770 were male, 181 female, 2 children (female). Eighteen hundred and forty-four smears were examined for gonorrhoea, and 19,113 treatments given.

Treatments—Gonorrhoea	.....	19,113
Syphilis	.....	5,316
Non-Venereal	.....	1,972
Total	.....	26,401

Report of Patients Treated in the Provincial Gaol

There were 130 patients treated for venereal disease in the gaol during 1924. Of these 53 were syphilis (33 male and 20 female), 63 were gonorrhoea (40 male and 23 female).

660 blood examinations were made for syphilis.

182 smears were examined for gonorrhoea.

Respectfully submitted,

J. PULLAR.

Municipal Hospitals

The following summary submitted by the Municipal Hospitals shows numbers of cases of communicable diseases admitted during 1924:

Disease	Cases	Deaths	Percentage
Diphtheria	606	19	3.14
Diphtheria Carriers	157	..	...
Scarlet Fever	370	7	1.89
Measles	125	3	1.88
German Measles	35	..	....
Encephalitis Lethargica	2	1	50.00
Anterior Poliomyelitis	1	..	....
Erysipelas	35	1	2.85
Spinal Meningitis	1	1	100.00
T.B. Meningitis	2	2	100.00
Parotitis	2	..	....
Pertussis	36	..	....
Smallpox	125	..	....
Varicella	47	..	....
Miscellaneous	204	10	4.90
Totals	1,748	44	2.52
Died within 36 hours		12	
Corrected rate			1.83

King Edward Memorial Hospital

	Cases	Deaths	Percentage
Tuberculosis	116	40	34.48

Medical Relief

Judging from the figures for the year, calls for medical relief were not so frequent; this is more apparent than real, for all calls except emergency calls are investigated before a physician is sent, and in this way abuse of the service prevented as far as possible. Three hundred and eighty-two visits were made by district physicians, and there were four hundred and nine consultations at the Health Office.

The Children's Hospital again assisted this Department in its effort to make our vaccination month, May, a success. We again offered free vaccination at all public schools. We did not get as good a response in these as we would like to have had. Vaccinations, including those performed at our Laboratory, totalled 4,074.

Particulars of the work carried on in the Dental Clinic at the Winnipeg General Hospital will be found in another part of this report.

Legislation Enacted

The only legislation enacted in 1924 consists of a number of amendments to that portion of the Manitoba Public Health Act dealing with communicable diseases. Smallpox is placed on an equal footing with other diseases and may now be isolated in the home provided that this can be done with safety to other inmates of the house and of the community. Fumigation as a means of terminal disinfection is now only to be employed when deemed necessary by the Health Officer. This is in line with the best modern practice, which discounts the value of fumigation and emphasizes the importance of the use of soap and water, sunlight, and aeration.

The regulations regarding quarantine are considerably modified, especially those relating to the attendance at schools of persons living in houses where a communicable disease exists. In chickenpox, measles, scarlet fever and whooping cough, children who live in such a house and have had the disease may be permitted by the Health Officer to attend school, provided that the patient is well isolated. In diphtheria, children with negative cultures who have received a prophylactic dose of antitoxin, or who have negative Schick tests and negative cultures, may attend school. In smallpox, where the case has been removed or isolated, children living in the house who exhibit marks of previous successful vaccination satisfactory to the Health Officer, or who, if previously unvaccinated, are at once vaccinated and show no evidence of the disease within sixteen days of exposure thereto, may be permitted to attend school.

The period of quarantine for measles is shortened, and patients may now be released "ten days after appearance of the rash, and when all discharges of the nose, throat and ears have disappeared and clinical recovery taken place."

Legislation Needed

Building By-law—We have prepared a number of suggested amendments to the Building By-law now under revision, which will be duly submitted for consideration at the proper time. These amendments deal with the better lighting, ventilation, and sanitary conditions of dwellings, and also with the prevention of the unlawful conversion of unsuitable buildings to the uses of tenements and dwellings.

Zoning—Present expressions of public sentiment, and the recent failure of a suit brought by the City to enforce one of the residential district by-laws, would seem to indicate that the time is ripe for the institution of a proper system of zoning, either by means of new charter powers supplemented by a City By-law; or by taking advantage of the Manitoba Town Planning Act which already provides the necessary permissive legislation. The Health Department would welcome the introduction of legislation which would at least protect our newer residence districts from the encroachment of business interests.

Installation of Plumbing

A few additional sewers and water mains were constructed, and 86 notices were served on owners to install plumbing. All new buildings on streets with both sewers and water mains were connected and plumbing installed therein. There were 35 brick pit closets removed during the year, plumbing having been installed, but 24 new outside closets were constructed in connection with houses on streets without sewers, so that the net reduction for the year was only 11.

December 31, 1923		December 31, 1924	
Brick Pits	351	Brick Pits	339
Earth Pits	1	Earth Pits	2
Total	352	Total	341

The reduction, although small, is satisfactory, and the small number of outside closets in use is gratifying. There are only 5 chemical closets in use.

Since 1905 the reduction of outside closets has been as follows:

	Box Closets	Earth Pits	Brick Pits	Total
June 30, 1905	6,153	186	....	6,339
December 31, 1905	3,182	80	1,020	4,912
June 30, 1906	2,255	747	1,325	4,327
December 31, 1906	1,105	662	1,626	3,393
December 31, 1907	80	201	1,535	1,816
December 31, 1908	25	103	1,492	1,625
December 31, 1909	..	53	1,432	1,485
December 31, 1910	..	52	1,300	1,352
December 31, 1911	..	47	1,171	1,218
December 31, 1912	..	31	1,014	1,045
December 31, 1913	..	38	838	877
December 31, 1914	..	18	648	666
December 31, 1915	..	14	504	518
December 31, 1916	..	9	447	456

	Box Closets	Earth Pits	Brick Pits	Total
December 31, 1917	..	11	442	453
December 31, 1918	..	5	421	426
December 31, 1919	..	6	438	444
December 31, 1920	..	1	402	403
December 31, 1921	..	1	399	400
December 31, 1922	..	1	388	389
December 31, 1923	..	1	351	352
December 31, 1924	..	2	339	341

It may be noted that during the years specified in the above table, the death rate from typhoid fever has been reduced, as follows:

1905	222.6 per 100,000	1915	2.0 Per 100,000
1906	146.5 "	1916	7.5 "
1907	51.0 "	1917	6.0 "
1908	40.6 "	1918	6.5 "
1909	38.4 "	1919	7.4 "
1910	31.6 "	1920	.0 "
1911	7.9 "	1921	.0 "
1912	5.4 "	1922	.0 "
1913	4.3 "	1923	.5 "
1914	3.9 "	1924	1.0 "

N.B.—From 1911 the figures show only cases originating in Winnipeg. Previous to 1911 the figures include cases sent from outside points to Winnipeg for treatment.

Extension of Sewers and Water Mains

Progress has been made during the year. On the completion of our annual census of outside closets, a complete list was prepared and sent to the Public Utilities Committee:

List of Streets with Four or More Houses Requiring Sewers or Water Mains

Fort Rouge

Street	Block	Houses	Total	Remarks
Beaverbrook St.	Haskins to Jackson	13		
Beaverbrook St.	Jackson to Lennon	8	21	
Lindsay St.	Haskins to Jackson	2		
Lindsay St.	Jackson to Lennon	1		
Lindsay St.	Lennon to Mathers	3	6	
Campbell St.	Kingsway to Haskins	2		
Campbell St.	Haskins to Jackson	2	4	
Cambridge St.	Jackson to Lennon	6		
Cambridge St.	Lennon to Mathers	4	10	

Street	Block	Houses	Total	Remarks
Lorette Ave.	Harrow to Guelph	2		Sewer advertised Harrow to Rockwood, Jan. 14, 1924. Not proceeded with.
Lorette Ave.	Guelph to Wilton	2		
Lorette Ave.	Rockwood to Thurso	2	6	
Scotland Ave.	Harrow to Guelph	1		Sewer advertised Harrow to Rockwood, Jan. 14, 1924. Not proceeded with.
Scotland Ave.	Guelph to Wilton	5		
Scotland Ave.	Wilton to Rockwood	1		
Scotland Ave.	Nathaniel to Cambridge	2	9	
Weatherdon Ave.	Aynsley to Lilac	1		
Weatherdon Ave.	Stafford to Harrow	7		
Weatherdon Ave.	Harrow to Guelph	2		
Weatherdon Ave.	Rockwood to Thurso	3		
Weatherdon Ave.	Nathaniel to Beaumont	1		
Weatherdon Ave.	Beaumont to Cambridge	1	15	
Carter Ave.	Stafford to Harrow	4		
Carter Ave.	Harrow to Guelph	4	8	
Hector Ave.	Wentworth to Stafford	3		Sewer constructed to W. line of Lot 36, Blk. 23, June 17, 1922. No water.
Hector Ave.	Stafford to Harrow	4	7	
Ebby Ave.	C.N.R. to Pembina Rd.	5		
Ebby Ave.	Lilac to Wentworth	3		
Ebby Ave.	Wentworth to Stafford	1		
Ebby Ave.	Stafford to Harrow	1	10	
Pembina Rd.	(Scattered)	6	6	
Parker Ave.	Pembina Rd. to C.N.R.	1		Apart from the question of installing plumbing in these houses, this street and district requires sewerage facilities for surface drainage.
Parker Ave.	C.N.R. to Rockwood	8		
Parker Ave.	Rockwood to Thurso	5		
Parker Ave.	Thurso to Nathaniel	4	18	
	Total		120	
On Streets with less than 4 houses, or where sewers and water mains have been recently constructed			48	
	Total		168	

Street	Block	Houses	Total	Remarks
	Assiniboine River to Higgins Avenue			
Keewatin St.	Rapelje to St. Matthews	2		
Keewatin St.	St. Matthews to Ellice	2		
Keewatin St.	Sargent to Yarwood	1		
Keewatin St.	William to Elgin	3		Water, no sewer. Private sewer here owned by Thos. Jackson, other owners refuse to connect with this sewer and apparently cannot be compelled to do so.
Keewatin St.	Logan to C.P.R. Main Line	2	10	
Centre St.	Portage to Ellice	2		
Centre St.	Ellice to Sargent	3	5	Watermain laid. No sewer.
Erin St.	Richard to Notre Dame	5	5	Watermain. No sewer. Sewer ordered Feb. 1922 but cancelled Mar. 27, 1922.
	Total		20	
	On streets with less than 4 houses, or where sewers and watermains have been recently constructed		29	
			49	
	C.P.R. (Main Line) to Northern City Limits			
Atlantic Ave.	Airlies to McPhillips	3		
Atlantic Ave.	McPhillips to Fife	2	5	Watermain laid. No sewer.
Bannerman Ave.	C.P.R. (Beach Line) Airlies	2		
Bannerman Ave.	Airlies to McPhillips	2	4	
Cathedral Ave.	Galloway to C.P.R. Beach Line	1		
Cathedral Ave.	C.P.R. Beach Line to Airlies	2		
Cathedral Ave.	Airlies to McPhillips	1	4	Sewer. No water.
Dalton St.	Mountain to Machray	5	5	Sewer. No water.
Inkster Blvd.	Parr to Arlington	4		
Inkster Blvd.	Arlington to C.P.R. Beach Line	1		
Inkster Blvd.	C.P.R. Beach Line to Sinclair	1		
Inkster Blvd.	Sinclair to Airlies	3	9	

Street	Block	Houses	Total	Remarks
Kildarrock St.	Mountain to Church	3		Sewer. No water.
Kildarrock St.	Church to Machray	3	6	Sewer. No water.
Kitchener Ave.	Near Keewatin St.	4	4	(Dairies).
Monreith St.	Mountain to Church	4	4	Sewer. No water.
Mountain Ave.	Kildarrock to Robertson	1		Sewer. No water
Mountain Ave.	McPhillips to Fife	6	7	Watermain laid. No sewer.
	Total		48	
On streets with less than 4 houses, or where sewers or watermains have recently been laid			34	
			82	

Elmwood

Sandhurst Ave.	Kent St. to C.P.R. Molson Branch	6		Watermain laid. No sewer very insanitary conditions existing at these premises.
Sandhurst Ave.	W. of C.P.R. Molson Br.	1	7	
Beach Ave.	E. City Limits to Keenlyside	3		
Beach Ave.	Keenlyside to Kent	3		
Beach Ave.	Kent to Cameron	1		Sewer. No water.
Beach Ave.	C.P.R. Molson Branch to Grey	2	9	Sewer ordered C.P.R. track to Kent St. (except bet. Cameron and Green) Jan. 16, 1922. Not constructed.
Herbert Ave.	Keenlyside to Kent	4		
Herbert Ave.	Green to Foster	6	10	Watermain laid. No sewer.
Nairn Ave.	Kent to Green	2		Sewer. No water.
Nairn Ave.	Grey to Eaton	2	4	Sewer. No water.
	Total		30	
On street with less than 4 houses, or where sewers or watermains have been recently laid			12	
			42	

Summary

Fort Rouge	120
Assiniboine River to Higgins Ave	20
Higgins Ave. to Northern City Limits	48
Elmwood	30
	218
On streets with less than 4 houses, or where sewers and watermains have recently been constructed	123
Total outside closets	341
Outside closets in use December, 1923	352
New closets built 1924	24
	376
Deduct closets removed during 1924	35
	341
Net decrease for 1924	11

Housing

There were 437 new houses built during 1924, and also one apartment block. These were all built by private enterprise, as the Housing Commission decided not to make any loans this year. Our survey of vacant houses and apartments showed 868 vacant houses and 606 vacant suites. Last year the figures were 1,002 and 740 respectively.

Conditions in the large number of houses improperly occupied as tenements show no improvement, but rather the reverse. A more detailed discussion on housing conditions will be found in the report of the Chief Health Inspector and the Tenement Inspector.

Educational Work

There has not been much demand for lectures or addresses this year. This is probably not due to any lack of interest in health and sanitation, for there never was a time when more interest in matters relating to health was manifested; it is rather due to the publication of so many articles in newspapers, magazines and books regarding sanitation and hygiene. Many of these articles and books are of real value, but others are merely the propaganda of faddists, so that the ordinary man is puzzled in trying to reconcile some of the opposing theories. There are now available, however, several health journals written in simple language, and beautifully illustrated, which are published with the imprimatur of the best and most reliable authorities in such matters. Two of these journals might be mentioned, viz., "Health, a National Magazine for Home, School, Industry" and "Hygeia, a Journal of

Individual and Community Health," published by the American Medical Association. Such magazines should be better known in Canada.

The Sanitary Inspectors of the Department prepared, as is usual, a very interesting educational programme which was as follows:

1923

Nov. 24—Opening Address, Dr. A. J. Douglas, Medical Health Officer, Winnipeg.

Dec. 1—Visit to Dominion Government Food and Drugs Laboratories, under the direction of E. L. C. Foster, M.A., F.C.I.G.

Dec. 8—Address, Dr. D. H. McCalman, Chairman Provincial Board of Health, Manitoba.

Dec. 15—Visit to Messrs. Ogilvie's Flour Mills, under the direction of D. McKellar, Mill Manager.

1924

Jan. 5—"Insulin," Dr. M. Finkelstein, City Bacteriologist, Winnipeg.

Jan. 12—Questions and Discussion.

Jan. 19—Visit to Messrs. T. Eaton Coy.'s Research Bureau, under the direction of F. Pugh, Manager.

Jan. 26—"Industrial Hygiene," Arthur J. MacNamara, Chief Inspector, Provincial Government Bureau of Labor.

Feb. 2—"Venereal Disease, a Public Problem," Dr. A. M. Davidson.

Feb. 9—"Concrete," L. J. Street, City Testing Laboratory.

Feb. 16—Questions and Discussion.

Feb. 23—"Building Construction in Relation to Public Health," J. Arkle, Health Inspector, St. James.

Mar. 2—Questions and Discussion.

Mar. 9—Summary, J. W. Richardson, Health Inspector, Transcona.

Mar. 16—Social Evening.

Changes in Staff

Interpreter-Inspector Miller was retired on account of ill health on September 15th. We were sorry to lose Mr. Miller who had served the Department for thirteen years. Mr. Miller's courtesy and willingness on all occasions made him a valuable officer. He was a man for whom his associates had a warm regard.

In conclusion, I desire to express to the members of the staff my very sincere appreciation of the faithful manner in which they have discharged their duties throughout the year.

Respectfully submitted,

A. J. DOUGLAS,

Medical Health Officer.

Report of the Division of Sanitary Inspections and Housing

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith a report of the work accomplished in this Division of the Health Department as set forth in my own report and those of the Tenement and Smoke Inspectors, as follows:

Abatement of Nuisances

The following table sets forth in a concise manner a summary of the work done by the inspectors of this Division.

The total number of inspections and re-inspections was 43,776. Complaints numbered 2,663, or 309 less than in 1923.

Take in pages 31 and 32

SANITARY INSPECTIONS FOR THE YEAR 1924

	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Complaints received in office	135	123	126	137	207	161	196	145	134	151	80	126	1,721
Complaints made to Inspector	82	74	64	83	101	71	81	68	91	86	75	66	942
Total	217	197	190	220	308	232	277	213	225	237	155	192	2,663
Of above:													
Complaints re non-removal of garbage, etc.	21	26	28	40	44	37	33	39	26	46	28	34	402
Complaints re nuisances, etc.	196	171	162	180	264	195	244	174	199	191	127	158	2,261
Total	217	197	190	220	308	232	277	213	225	237	155	192	2,663
Complaints well founded	197	170	163	195	273	195	234	170	192	205	131	158	2,283
Complaints unfounded or rectified previous to receipt of same	20	27	27	25	35	37	43	43	33	32	24	34	380
Total	217	197	190	220	308	232	277	213	225	237	155	192	2,663
Written notices (informal)	261	287	187	249	412	249	185	240	234	329	320	262	3,215
Written notices (statutory)	155	141	222	219	282	193	208	174	183	220	145	127	2,269
Verbal notices or warnings	804	838	1,062	896	1,355	826	973	850	887	933	809	687	10,920
Total	1,220	1,266	1,471	1,364	2,049	1,268	1,366	1,264	1,304	1,482	1,274	1,076	16,404
INSPECTIONS MADE:													
Dwelling houses	250	232	178	228	288	200	198	249	241	270	263	1,016	3,613
Tenement and apartment blocks	100	88	86	103	105	75	80	103	102	101	96	517	1,556
Hotels and lodging houses	15	53	54	61	36	12	8	12	13	12	26	8	310

Schools and public buildings	....	3	....	2	1	3	....	2	6	3	....	1	21
Abattoirs	....	....	....	....	1	....	....	....	....	....	....	....	1
Workshops and factories	62	63	47	54	43	36	27	32	39	38	55	56	552
Offices	16	3	17	6	11	7	6	6	4	12	11	10	109
Restaurants and stores	76	66	73	77	58	42	51	59	62	60	59	45	728
Stables, livery, feed and sale	27	31	31	28	27	28	30	34	31	32	31	34	364
Stables, private	149	162	143	135	283	227	207	152	202	179	219	144	2,202
Laundries, hand	62	55	106	77	85	65	52	66	52	56	61	35	772
Laundries, steam	5	5	4	6	6	8	5	4	5	4	5	3	60
Dog kennels	4	6	25	14	20	19	15	7	10	9	9	7	145
Theatres and places of amusement	3	3	2	4	1	2	1	....	4	5	4	2	31
Public bath houses	8	9	10	8	8	8	8	4	8	9	8	8	95
Public bath houses, water samples	12	12	12	15	12	9	14	12	15	12	12	12	149
Comfort stations, public	20	20	20	20	20	20	20	10	20	20	20	20	230
Maternity and Infants' homes	1	....	....	....	....	....	....	....	1	....	....	....	2
Hospitals, private	....	....	....	2	1	....	....	....	1	1	2	1	8
Common drinking cups and towels	8	7	6	5	8	2	4	3	4	3	6	2	58
Barber shops	11	10	11	13	13	8	6	9	8	9	7	11	116
Second-hand stores and junk yards	18	27	125	55	35	19	12	23	28	24	31	38	435
Pool rooms	28	26	44	62	50	25	22	18	25	21	29	20	370
Yards, sheds, areas, etc.	507	693	886	871	1,138	830	855	705	799	813	652	474	9,223
Vacant lots (nuisances)	64	59	96	102	126	84	69	52	45	79	64	34	874
Streets and lanes (nuisances)	374	384	254	193	274	223	166	215	293	366	377	346	3,465
Infectious diseases (houses placarded, disinfected, etc.,	....	....	....	....	....	....	....	1	....	....	....	....	1
Total number of inspections	1,820	2,017	2,230	2,141	2,650	1,952	1,856	1,778	2,018	2,138	2,047	2,844	25,491
Re-inspections	1,373	1,272	1,369	1,466	2,200	1,745	1,629	1,427	1,669	1,659	1,382	1,094	18,285
Total number of inspections and re-inspections	3,193	3,289	3,599	3,607	4,850	3,697	3,485	3,205	3,687	3,797	3,429	3,938	43,776

SANITARY INSPECTION FOR THE YEAR 1924—Continued

DEFECTS AND NUISANCES DISCOVERED AND ABATED	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Drains, choked or defective	19	19	18	42	25	21	31	20	29	23	14	19	280
Sinks and wash-basins, choked or defective	24	25	15	21	16	17	33	12	18	18	16	23	238
Water closets and fittings, choked or defective	47	48	42	55	38	34	37	28	31	33	40	31	464
Baths and fittings, choked or defective	3	2	1	2		2	3	1		2	2		18
Urinals and fittings, choked or defective	2	10	4	2	3	2	2	2	2	2	2	1	39
Soil-pipes, clean-outs, etc., choked or defective	7	19	14	16	21	14	18	12	15	13	13	22	188
Catch-basins and traps, choked or defective	19	18	18	23	15	14	18	13	23	19	15	10	205
W.C. compartments, defective light and ventilation		5	3	10	5	3	6	3	4	2	6	2	49
Plumbing and water pipes, frozen	119	52	25	11							2	76	285
Vent stacks, frozen	4											1	5
Sewer connections, frozen	3	3	4	1								4	15
Water services, defective or cut off	28	36	43	27	26	28	23	18	30	23	17	32	331
Plumbing fixtures, insufficient	5	3	1	4	9	3	2	4	7	8	6	3	55
New plumbing, notice to instal	6	5	6	7	5	1	4	10	2	9	21	7	86
Total plumbing defects	286	245	194	226	163	139	177	123	162	152	160	231	2,258
Dirty yards, courts, sheds, etc.	208	353	566	517	738	369	407	282	397	399	277	198	4,711
Poultry kept in dwelling	6	2	20	12	24	6	12	6	9	9	7	7	120
Pigeons kept in dwelling		1	5	3	2	1	3	3	4	2	1	1	26
Animals kept in dwelling		1		1		1	2	1	1		1		8
Poultry kept under insanitary conditions	1	12	8	21	32	19	23	19	23	21	13	4	196
Cows or other cattle kept under insanitary conditions	10	3	3	5	5	7	8	12	11	5	14	10	93
Cows or other cattle kept too close to dwelling		4	1		4	4	2	1	1		1	2	20
Hogs, unlawfully keeping													
Horses, insanitary stables	2	4	10	3	11	6	3	7	8	2	3		59
Garbage receptacles	162	193	217	198	413	302	383	247	268	270	205	125	2,983
Refuse receptacles	67	86	107	108	145	70	79	85	112	78	71	49	1,057

Manure bins, defective	65	82	54	57	114	77	67	46	57	55	59	48	781
Ash receptacles	72	20	24	19	9	5	5	9	4	23	26	43	259
Paper receptacles	7	20	24	17	22	27	19	18	17	20	12	14	217
Cellars and basements, defective	34	27	25	45	49	38	55	44	48	49	21	33	468
Dwellings, dilapidated and insanitary	12	15	11	8	17	8	18	13	13	11	11	12	149
Tenements, dilapidated and insanitary	4	1	1	2				2	1	1		2	14
Offices and workshops, dilapidated and insanitary	2	2	1		1	2				1			9
Dilapidated and insanitary other buildings	4	16	8	7	6	13	9	4	7	9	14	2	99
Overcrowding (day inspections)	19	19	15	21	16	12	6	18	14	13	20	10	183
Overcrowding (night inspections)							4		2			1	7
Overcrowding (notices)	6	4	1	3	3	2	2	5	4	3	2	2	37
Rat-infested buildings	1	1	5	4	9	7	3	3	4	4	3	2	46
Cockroach infested buildings			1	2	8	1	2	4	2	3	2	1	26
Bed-bug infested buildings	1	4	6	9	7	5	10	1	8	3	1	2	57
Chimneys, defective	4	1	3	1		2	4	2	7	13	5	3	45
Roofs, defective	3	11	8	14	12	8	17	9	27	26	12	1	148
Eavestroughs and rain-water leaders, defective	3	10	9	12	48	44	41	26	28	43	13	5	282
Gas fittings and piping, defective		2	1	7	3	2		1	1	1	1	1	20
Furnaces and heating apparatus, defective	15	8	2	4					1	5	8	15	58
Refrigerators, defective		4					1			3			8
Lighting, defective	5	6	2		8	9	1	4	6	2	3	2	48
Ventilation, defective	5	8	2	6	8	2	5	9	4	1	1	4	55
Pit closets, concrete or brick, notices	5	2	6	7	8	11	5	9	19	27	13	2	114
Contractors' closets, notices	19	12	12	32	74	85	135	107	83	52	41	28	680
Chemical or patent closets					2		1		1		2		6
Stagnant water, vacant lots		1	1	18	8	3	1		1	1			34
Other nuisances, vacant lots	56	46	81	87	105	60	61	45	40	89	64	31	765
Nuisances on lanes or streets	321	384	242	196	272	212	154	221	257	352	318	332	3,261
Total number of defects	1,119	1,365	1,482	1,446	2,183	1,420	1,548	1,263	1,490	1,593	1,245	992	17,149
Total plumbing defects	286	245	194	226	163	139	177	123	162	152	160	231	2,258
Total defects discovered (including plumbing defects)	1,405	1,610	1,676	1,672	2,346	1,559	1,725	1,386	1,652	1,748	1,405	1,223	19,407

SANITARY INSPECTION FOR THE YEAR 1924—Continued

DEFECTS AND NUISANCES DISCOVERED AND ABATED	January	February	March	April	May	June	July	August	September	October	November	December	Totals
SMOKE NUISANCES													
Chimneys and smoke stacks (observations)	42	15	41	15	12	14	12	10	23	25	57	57	323
Furnaces, boilers, fuels, etc., inspections of	85	87	137	86	89	81	92	71	85	95	171	153	1,232
Total	127	102	178	101	101	95	104	81	108	120	228	210	1,555
Notices, statutory	2	2	.	1	1	.	.	.	2	2	3	.	13
Notices, verbal	24	12	36	15	12	2	2	1	3	13	37	15	172
Total	26	14	36	16	13	2	2	1	5	15	40	15	185
MISCELLANEOUS													
Milk samples taken	.	.	.	.	.	.	.	.	.	.	.	.	.
Water samples taken	.	1	.	.	.	.	.	2	.	1	1	.	5
Chemical tests (plumbing and drainage): Positive	.	.	1	.	.	1	1	.	2	1	1	.	7
Negative	1	.	.	.	.	1	.	.	1	.	1	.	4
Cases reported for prosecution	4	6	1	.	3	1	5	3	1	.	1	3	28
Time attending court (hours)	1½	2½	1¼	.	2	2	1	4	.	.	.	½	14¾

Frozen Plumbing and Water Pipes

There were reported 285 cases of frozen plumbing or water pipes, or 16 cases fewer than in 1923. So many of our older houses are constructed without proper basements that a good deal of trouble is experienced by tenants living in such houses. In many instances freezing of plumbing occurs in lock-up stores where the occupants will not furnish adequate heat. In a few cases we were obliged to prosecute before conditions were rectified.

Other Plumbing Defects

These numbered 1,973, or 338 less than in 1923 and included choked drains, sinks, wash basins, water closets, baths, urinals, soil stacks, catch basins, clean-outs and vent stacks; water closet compartments without light or ventilation; water services defective or cut off for non-payment; insufficient plumbing fixtures, etc. There were 86 notices served on owners to instal plumbing in buildings on streets where new sewers were constructed. Four hundred and thirty-seven new houses were built, and these, of course, together with other new buildings, were connected with the sewers and water mains when available, and plumbing installed. There are now only 341 outside closets in use in the whole city.

Garbage, Manure or Other Receptacles

There were 2,782 notices served to provide metallic garbage cans, receptacles for incombustible refuse, ashes or paper, and also to provide or repair manure bins. The best of garbage cans do not last very long and, of course, must be replaced. Manure bins should be both fly and weatherproof. Constant supervision is needed in order to ensure the keeping of various kinds of refuse in the proper kind of receptacles in order to prevent, as far as possible, the breeding of flies, to avoid furnishing food for rats, and to prevent offensive odours. This system also facilitates collection.

Scavenging

We have, pursuant to our instructions, co-operated with the Street Commissioner's Department in the matter of keeping of garbage, incombustible refuse and ashes in the manner required by the regulations of the Health Committee, and so as to be convenient for removal. We received and investigated 402 complaints regarding the non-removal of these substances previous to passing them along to the Street Commissioner with a request for removal. In many cases the complaints were not justified as either the matter complained of was commercial refuse for which the owner was responsible, or else the garbage, etc., was not kept in a proper manner. There were no general complaints regarding the scavenging system. Our inspectors have an opportunity of observing whether or not the scavenging is regular. If, in any district, the removal appears to be behind-hand the attention of the Street Commissioner's Department is drawn to the same and the matter is promptly rectified.

The following requests were made to that Department:—

To clean contractors' closets	63
To remove tins and incombustible refuse	25
To remove garbage	22
To remove dead animals	25
To remove ashes	20
To clean brick pit closets	14
To remove infected bedding	4
To remove manure from streets	3
To allow refund on contractors' deposit accounts	15
Total	191

Contractors' Closets

Permits issued, 286, or 84 fewer than in 1923. Inspections and re-inspections 680. This is a very large number for the number of closets in use. Some contractors are very lax in their methods as regards providing proper sanitary conveniences for their men. We have trouble getting the closets built at all, trouble in having them built in accordance with the regulations, difficulty in many instances in getting them cleaned regularly, and trouble in getting them removed after the buildings are complete. We prosecuted in only two cases. A new system came into use during the year by which the contractors get their closet permits in the office of the City Engineer at the same time as they obtain their building permits. Contractors are also required to deposit the sum of $4.50 at the time of issue of permit. This covers the cost of three cleanings and saves trouble in making collections.

Feed and Sale Stables

Permits issued, 18. Inspections made, 364. Most of these buildings are in fair condition considering that many of them are very old.

Keeping of Animals

In a large city, and especially in places like Winnipeg, where the predominating width of lots is twenty-five feet, it is necessary to exercise some supervision over the keeping of domestic animals if flies are to be kept down, and annoyance to neighbours prevented. Our stables are getting into better condition, as it is now generally understood that they must come up to a certain standard. All persons keeping cows are now required to obtain a permit from the Health Officer, and the cows must be tested for Tuberculosis. An idea of the work accomplished this year may be obtained from the following figures showing the number of animals kept in stables, and sheds more or less insanitary:

Number of cows kept	165
Number of calves kept	5
Number of horses kept	224
Number of goats kept	2
Number of pigs kept	1
Number of sheep kept	1
This is 382 less than in 1923.	398

The above animals were kept in 179 stables or sheds, except that in 4 cases no stable was provided. Action taken resulted as follows:—

Stables or sheds vacated and placarded	5
Stables or sheds vacated (not placarded)	32
Stables improved	110
Stables demolished	1
Extension of time given until spring	24
Cows kept on pasture removed	4
Pending (notices not expired)	7
	183

In addition to the improvement of stables, the following animals were removed:—

Horses	44
Cows	48
Calves	5
Goats	2
Sheep	1
Pigs	1
	101

The total number of inspections and re-inspections of private stables was 2 202.

Poultry—

Poultry kept in dwelling	120 cases
Pigeons kept in dwelling	26 cases
Poultry kept under insanitary conditions	196 cases
	342 cases

Other Animals—

Mostly dogs or cats, 8 only.

Licensed Dog Kennels

There were 28 permits issued during the year. A few complaints were received, but as a rule these places are well kept. There were 145 inspections made.

Nuisances in Yards, Sheds, Lanes, Vacant Lots, Etc.

The prevention of such nuisances is an important part of the work of our inspectors. It is surprising how many people try to dispose of refuse matter by depositing it on vacant lots, lanes, or even streets. The notices served in this connection during the year were as follows:—

Dirty yards, courts, sheds, etc	4,711
Stagnant water in vacant lots	34
Other nuisances on vacant lots	765
Nuisances on streets and lanes	3,465
	8,975

Nuisances Abated Compulsorily and the Cost Charged as Taxes

It was not found necessary to do this in any instance this year.

Compulsory Sewer Notices

Only two such notices were served, both on account of stagnant water on vacant lots.

Applications for City-Installed Plumbing

Only one such application was sent to the Health Committee.

Overcrowding

Day inspections, 183. Night inspections, 7 only. Some years ago there was a great deal of overcrowding in lodging-houses. There is little in such houses today. The overcrowding we find now is where large families are trying to live in one or two rooms. This class of overcrowding is due in most instances to poverty and is particularly hard to deal with. In several instances we have been obliged to appeal to the Social Welfare Commission or the Emergency Unemployed Relief Committee, to assist us in getting families moved into more roomy quarters. Not only are families crowded into one house in many instances, but there is also a tendency for each family to rent fewer rooms. In these houses which are occupied as tenements there is a slow but gradual upward trend of rents. In many instances the rent is now demanded weekly instead of monthly. The amount appears small but is really larger than a monthly rent. In many houses where most of the occupying families formerly rented two or three rooms, we now find that the rooms are rented singly. The rooms are often far too small for use for all purposes: living, cooking, and sleeping, by a family. Many of the attic rooms rented are quite unsuitable for use by families as dwellings. The congestion in this respect is increasing, which we are very sorry to note. If only a few hundred three or four-roomed cottages, reasonably warm, were available at moderate rents, we might then be in a position to insist on these families getting more room. In one 27-roomed house dealt with recently, there were 19 families. The average rent paid for a room in this house in 1916 was $4.43. Today it is $8,39, an increase of 89.3%, and the rents in this house are moderate compared with some others.

In another 28-roomed double house were found 24 families, only two of the 24 renting more than one room. Rents in such houses in the centre of the City run from $10 to $25 per room, with an average of about $15. The lessees provide heat (such as it is), light and water, and in a good many instances the main articles of furniture: bed, table and a gas stove. And yet these families will not or cannot rent one of our 868 vacant houses. It may be that in many instances they have no furniture, but the principal reason is that they would have to provide heat for a separate house and they know that many of the houses are hard to heat; moreover, 741 of the 868 vacant houses contain more than 4 rooms. The combined rent and heating would be too expensive for them. Such families as do break away from the rooming house generally take one or more families with them to help to pay the expenses. With unemployment so prevalent, many are afraid to try separate housekeeping for fear that their sub-tenants might not be able to pay their rent.

The proprietors of the unlawful tenements are also experiencing trouble from the unemployment amongst their tenants. In one house we found four families on City relief.

Another lessee who runs several houses was found to be collecting those tenants out of work into one house with the avowed intention, as soon as she got them so collected under one roof, of giving up the house and leaving them stranded without heat, light or water.

The present conditions are not satisfactory, but what can be done under the circumstances is not clear. We hope that conditions will improve, however, before next Fall.

Housing

There were 437 new houses built during the year and one 15-suite apartment building. This is 76 fewer than in 1923. These were all built by private enterprise, the Housing Commission having decided at the beginning of the year not to make any loans. We hope that this suspension of operations is only temporary. Vacant houses at December 31st were 868, as against 1,002 in 1923. Vacant suites 606 as against 740 last year. The percentage of all dwellings vacant was 2.7% and of all suites 8%, both of which are below normal. Of the 868 vacant houses 741 contained more than four rooms, 578 more than 5 rooms and 373 more than six rooms. If we are ever going to be able to induce the families at present living in rooms in tenements to start housekeeping in separate houses it will be necessary to build large numbers of three and four-roomed cottages. This class of tenant will never rent large or cold houses; they might be induced to rent small and snug cottages. I believe that they would prefer houses without full basements and furnaces, as houses of this size can be more cheaply heated with stoves. As the Building By-law now reads, however, only "fully modern" frame houses may be built within the first and second-class Fire Limits. This means houses with full basements, furnaces and full plumbing. Moreover, the houses must be detached. Frame terraces may not be erected within the limits. As the Fire Limits embrace about half of the City, and all of the so-called built-up part of the City, there is no opportunity for persons who might be so disposed to build semi-modern small cottages in terrace form anywhere near the centre of the city, although there is plenty of land available within that area. If these restrictions were modified, it is quite likely that a large number of semi-modern houses would be built. If detached, they would not be any more of a fire risk than a fully modern frame house; and if built in terraces, fireproof party walls might be required.

Something is necessary in order to relieve the congestion in the single-family dwellings at present occupied as tenements.

The longer this class of houses are let alone the worse conditions will get. The difficulty of controlling communicable diseases in them is obvious, to say nothing of the effect on the health and morals of the occupants, and more particularly of the children living in such houses.

It is not easy to formulate measures which could at once be made effective for preventing the continuance of such conditions in the hundreds of houses at present so occupied in the City.

Prior to the war, efforts were made to prevent the conversion of any more houses to tenement uses, and with a good measure of success. During the war, these efforts were by degrees suspended. It was hoped that conditions would improve after 1918, but our hopes were unrealized. Economic conditions remained bad, and still prevented any serious attempt to cope with the evil. The Department has been obliged to be content with the regulation of extreme cases, such as the occupation of cellars as dwellings, and overcrowding.

Some of our previous reports have suggested:—

1. The need for more small houses built within the City.

2. The encouragement of the building of houses within the City rather than in the suburbs, by a tax exemption on new houses for a limited period.

3. The amendment of the Building By-law so as to permit of the building of durable, warm, but semi-modern houses.

4. The making of a complete housing survey of the whole City instead of small limited districts only, as in former surveys, in order to ascertain definitely the exact housing conditions obtaining.

5. Amendments to the Building By-law putting houses of this class already occupied in a class by themselves, and giving power to the Health Officer to require the making of improvements to such houses; a reduction in the number of families occupying, etc. We have prepared some suggested amendments on these lines for submission to the Committee having charge of the revision of the Building By-law now in progress.

The whole question, however, in addition to being a problem which affects the health and well-being of the people, is also an economic problem, and the City Council should decide when the time is opportune for a forward step.

We might at least be authorized to take the complete survey of housing conditions above mentioned. This, we believe, can be done within a year, and without increasing the staff. The cost for printing the slips used in such a survey would be very small.

If the amendments to the Building By-law just referred to are approved and enacted, the Department would then be in a much stronger position to at least prevent further conversions of one-family dwellings into tenements without permit, and even to make a start towards improving conditions in some of these already occupied.

The situation is difficult, but should be faced and considered. The Health Department is ready to take such action as the Health Committee or the City Council may, after consideration, direct.

It should be frankly recognized that if, and when, an attempt to deal with the situation is made, there will no doubt be a strong opposition from owners, lessees and occupants of the houses concerned, so that the Department should be assured that Council is behind it whenever it is judged expedient to make a serious attempt to remedy conditions.

Zoning

There have been a few instances during the year which emphasize the necessity for a Zoning By-law which will at least protect residence districts. It would appear, however, that before this can be done additional charter powers are necessary and we understand that these will be applied for shortly.

Gas Stoves and Fittings

There were only 20 cases dealt with under this head. The most objectionable conditions in the use of gas stoves are found in the houses which are unlawfully occupied as tenements, and more especially when such stoves are placed in rooms which are used for the combined purposes of living, cooking and sleeping. The rooms in some of these houses are sometimes cold, and we find that the gas in ovens is kept burning to try to raise the temperature of the room, the oven door being left open. Where there are a number of gas stoves in such houses they are seldom or never provided with hoods or pipes to carry off the products of combustion. It is, in fact, almost impossible to

provide these because of the difficulty of connecting a large number of pipes to one chimney. In a few such places electricity is now used for cooking, but the cost of wiring prevents this in most cases. The stoves are the property of the lessees as a rule, and not of the owners. No permit is required to instal gas piping or stoves; the cost is small and the work is done without the knowledge of any City Department. There should be a permit required in every instance and the work done under proper supervision. Only by this means can the installation of gas stoves in unsuitable premises be prevented.

Trades, Manufactories, Office Buildings, Etc.

Inspection of workshops and industrial plants, 552, office buildings, 109. Laundry inspections are not included in these totals. There were two applications for permission to establish hide storage warehouses, one complaint of noxious fumes from welding, one regarding noise and dust from a grain mill too close to dwellings, one of burning offal in the furnace of a tannery, some trouble with a new coking plant, and one or two complaints of dust nuisance from coal yards close to dwellings. For the rest, the subjects of complaint were: lack of sufficient light or ventilation and defective or dirty sanitary conveniences. A few applications for permits to occupy basements of buildings for businesses of a public character, were dealt with, and permit issued as required by the regulations made in that behalf by the Provincial Board of Health.

Rats

Complaints regarding rats were not so numerous this year, there being only 46 as against 72 in 1923. The bounty of five cents for each rat's tail delivered at the Health Office, was continued and amounted to $142.80 on 2,856 tails. A few employees of abattoirs and large stables bring in quite a few tails, one man drawing $23.80 for 476 tails, and another $21.00 for 420 tails.

There were 1,388 applications for poison; 264 from Ward I; 439 from Ward II; and 685 from Ward III. There were 1,831 boxes distributed gratis.

The premises in which it was intended to use the poison were as follows:—

Dwellings	829
Stores and dwellings	57
Stores	153
Apartment buildings and hotels	71
Stables	98
Chicken houses	61
Institutions and public buildings	29
Yards and garages	70
Warehouses	20
	1,388

Public Baths and Comfort Stations

Inspection of baths, 96; comfort stations, 230. There were 149 samples of water taken from the public baths and submitted to the City Bacteriologist for examination Both the baths and comfort stations were kept in a clean and sanitary condition during the year.

Private Hospitals

There are now only three private hospitals licensed by the City. Maternity and Infants' Homes are supervised by the Provincial Board of Health. Eight inspections of hospitals were made and two of Maternity Homes (at the request of the Provincial Board).

Common Drinking Cups and Towels

There were 58 notices served to discontinue the use of common drinking cups or of common towels.

Chimneys and Furnaces

The complaints regarding defective chimneys, and of defective furnaces and heating apparatus, were less than in 1923, the figures being: chimneys, 45, and furnaces, 58. Many furnaces are getting old and dilapidated and with the use of soft coals as fuel, in such furnaces, a condition injurious to the health of the occupants of the premises frequently arises.

Billiard Rooms

There were 75 permits issued, and 370 inspections made during the year. Once every year before licenses are renewed all such premises are renovated and put in order.

Second-Hand Dealers and Junk Yards

There were 142 permits issued, and during the year 435 inspections of such premises were made.

Barber Shops

One hundred and sixteen inspections were made of barber shops. Adequate plumbing fixtures, including hot and cold water, are insisted on. In the case of barber shops in basements, mechanical ventilation is required and a special permit to occupy.

Vermin

Notices were served regarding 26 dwellings infested with cockroaches and 57 where bed bugs were found. This is fewer than last year. The summer was, however, colder and probably bed bugs were not so active.

Theatres and Places of Amusement

Thirty-one inspections only were made. The sanitary conditions in such places are very fair.

Schools and Public Buildings

Inspections, 21. The schools inspected were all private schools. The public schools are well supervised by the officers of the School Board and it is seldom necessary for our inspectors to visit any of them; in fact, we only inspect on complaint.

Laundries

There were 119 permits issued for laundry licenses, or 6 less than last year. Inspections of hand laundries, 722; steam laundries, 60. There were two applications to establish new laundries. In both cases the applicants obtained the necessary consent of adjoining owners and the City Council approved of the applications.

Hotels

Permits were issued for 59 hotels, two more than last year, and 310 inspections were made of hotels and lodging houses.

The hotels are now in fair condition—some of them in excellent condition. There are, however, in some of the hotels a number of rooms without outside light which are not permitted to be used as bedrooms.

Smoke

The report of the Smoke Inspector would appear to indicate that his quiet but persistent work is having effect. We think that his services are appreciated by the owners of power and heating plants, and that his expert advice, rendered cheerfully at all times, with a view of keeping smoke emissions at a minimum, has not only had that effect, but has also, in many instances, resulted in a financial saving to those concerned. Again, the services of the Department in cases of defective furnaces and chimneys in dwellings, has added to the comfort of citizens, and also, in some instances, has prevented accidents from gas poisoning.

The railway companies would appear at present to be the chief offenders as regards the emission of objectionable smoke.

Insanitary Buildings

The table given below shows the number and class of premises for which notices were served upon owners and occupiers under Section 103 of the Public Health Act, under which section the Health Officer has power to require that premises be put into a proper sanitary condition or else closed up.

Dwelling houses, general insanitary condition	28
Dwelling houses, unlawful conversion of same to duplex dwellings	0
Dwelling houses, unlawful conversion of same to tenements	0
Tenement houses	2
Basement and cellar dwellings	5
Dark rooms (dwellings)	0
Stores occupied as dwellings	11
Factories and workshops	9
Stables	5
	60
Notices served on owners and agents	63
Notices served on occupants	44
Results—	
Notices complied with (premises put into sanitary cond.)	37
Premises closed and placarded	20
Cases still pending	3
	60
Premises remaining closed in December 31st, 1923	244
Premises repaired or demolished during 1924	52
	192
Premises closed during 1924 (dwellings, 8; stables, 5; other premises, 7)	20
Remaining closed on December 31st, 1924	212

Work Done for Other Divisions

As usual we made a number of reports on the condition of dwellings for the Social Welfare Commission. We also reported to the Building Inspector a number of infractions of the Building By-law. A number of investigations were made for the Statistician regarding incorrect registrations of births and deaths, and a few inspections for the License Department. One of our staff was loaned to act as City Hall Constable for four months.

Prosecutions

It is worthy of note that only 33 prosecutions were conducted during the year. This is less than half of those undertaken in 1923 (72), which was the smallest number previously. Of the total cases, 7 were for the Food Division and 5 for the Dairy Division. Our records show that in 1911 we had as many as 1,156 prosecutions. As no fewer than 16,404 notices were served by the Division during the year, the results attained by educational means, and without resorting to prosecution, are very satisfactory.

The decrease in the number of prosecutions since 1911 (the peak year), has been as follows:—

1911	1,156
1912	1,050
1913	721
1914	483
1915	243
1916	97
1917	98
1918	99
1919	87
1920	145
1921	119
1922	95
1923	72
1924	33

Prosecutions for 1924

Nature of Charges

Nuisances on premises	8
Deposit refuse or manure	3
Neglect to comply with notice of Health Officer	3
Contractors' closets, defective or lack of	2
Keep two cows at a less distance than 50 feet from dwelling	1
Using leaking swill wagon	1
Occupy insanitary premises without permission of Health Officer	1
Use hydrocyanic acid as an insecticide	1
Keep a dog kennel without permission of Health Officer	1
Food prosecutions	7
Dairy prosecutions	5
Total	33

How Disposed of

Fine	Cases	Fines
$3.00	6	$18.00
4.00	1	4.00
5.00	6	30.00
6.00	2	12.00
8.00	4	32.00
9.25	1	9.25
10.00	3	30.00
12.00	2	24.00
13.00	6	78.00
23.00	2	46.00
	33	$283.25

General

There are now 12 district inspectors, and we had, until Inspector Miller was retired on account of ill-health in September, an Interpreter-Inspector also. He has not been replaced, and it remains to be seen how we shall get along without an Interpreter. It means that we have to borrow one when occasion demands. There has not been for some years now much foreign immigration, or we should not be able to get along without interpreters. At one time, when immigration was brisk, three were required.

The district inspectors and clerical staff have worked well and faithfully during the year.

Yours obediently,

ERNEST W. J. HAGUE,

Chief Health Inspector.

Report of the Tenement Inspector

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have pleasure in submitting for your consideration the following report on tenement inspection and action taken during the year 1924 in housing conditions:

We received 109 complaints of nuisances in apartment blocks and tenements this year, as against 114 in 1923, and 314 in 1922. As stated in previous reports, complaints are becoming fewer on account of a better understanding of our regulations by owners and agents, also a closer supervision by our district inspectors.

The complaints referred to a variety of matters such as dirty condition of lavatories used in common, garbage not properly kept, vermin, defective plumbing, lack of heat during winter months, common halls and stairways dirty, dust from carpet beating on balconies, defective gas stoves, etc.

Improper care of garbage was responsible for 44 complaints this year and 43 last year. Apart altogether from our attention to these complaints, we are trying to obtain better conditions in this regard by frequent inspection. Indeed, complaints would be much more numerous but for our frequent inspections. When garbage cans become dilapidated and covers lost or left off, dogs have easy access, the material becomes scattered, and rats find ample food supply.

Complaints of vermin-infested suites are as frequent as ever, but we have as yet no legislation dealing with this matter, also we are seldom able to say whether the tenant or the owner is responsible. Tenants frequently desire to break their lease on this ground. It is only fair to state, however, that owners are usually anxious to do their part towards exterminating vermin but tenants are not always willing to co-operate.

The conversion into tenements, of single family dwellings is still on the increase. Many of the fine old residences, at one time occupied as the homes of well-to-do citizens who have moved out to the suburbs, are now occupied as nondescript tenements. In many of these we find large rooms divided into two by the erection of lumber or beaver board partitions; gas stoves or plates are fitted in the various rooms intended for kitchen use; water service pipes with taps fitted and no fixture under same, or where a sink is installed it is frequently placed in a hall or passage and improperly connected and in most cases without a permit having been obtained from the Plumbing Inspector. This situation, which is most prevalent in the centre of the City, is now almost out of hand, especially as the house farmer, who often leases a group of these houses, finds it a profitable business.

The following instance serves to show the necessity for frequent re-inspection. In 1916 we dealt with an old frame building, two storeys in height with attic rooms. The premises contained 26 rooms and these, not including 4 rooms which had been formed of flimsy lumber in the cellar, were occupied by 13 families consisting of 39 occupants. Families were also found in the attic. Closing notices were served for the cellar and attic rooms.

The cellar was vacated and the families removed from the attic. We kept the premises under observation for a few years, but on inspection this year again we found conditions as bad as on our first inspection. The cellar was again occupied by a family consisting of man, wife and three young children. The cellar is only 6 ft. 8 ins. in height and of this only 2 ft. 3 ins. is above the level of the ground surrounding the building. We found two families, consisting of man, wife and two young children in each case, living in the attic and occupying one room each. Both rooms were very small, one measuring only 7 ft. by 9 ft. 3 ins. floor space. The ceiling was only 7 ft. in height and this over only a portion of its area; it sloped down to a wall 3 ft. 6 ins. high. There was no accommodation for a bedstead and in consequence the bed mattress was spread on the floor at night and rolled against the wall during the day. Cooking was done on a small electric plate. Our inspection was made during the winter, and we found that, as there was no storm sash, the window was heavily coated with ice and frozen to the frame, so that there was no means of ventilation. The cubic contents of the room was 444 feet—just enough, with efficient ventilation, for one adult. The room occupied by the other family was a little larger—8 ft. 6 ins. by 9 ft.—but otherwise conditions were similar. We served closing notices and had the cellar and attic rooms vacated. We hesitate to think of what might happen to the unfortunate occupants in the event of fire breaking out in a building of this kind, especially as there are no fire escapes. It is of interest to note that for the entire premises the rents collected this year were $227.00 per month, as against $134.00 per month in 1916. Most of the furniture is the property of the owner and the lessee pays $100.00 per month rent for the premises, including furniture.

We are constantly coming across cases such as the above and, while conditions are not always so bad, we are obliged to take action. There seems to be an increasing number of attic rooms in use by families. Very few of these rooms are fit for family use at any time. In winter storm sashes are usually screwed on tight and the inner sashes frozen, so that little daylight and practically no ventilation is available. In summer these rooms, being so close to the roof, are almost unbearably hot.

A complaint of alleged dirty condition of rooms brought to our notice two semi-detached dwellings which had been unlawfully converted to a tenement. There were 26 rooms (13 in each house), and the houses were connected by two doorways cut in the partition wall. The 26 rooms were rented to 20 separate tenants or families, consisting of 35 adults and 14 children. Only two of the families occupied more than one room. The lessee of the premises occupied two rooms and rented out all the others. Cooking was done in most of the rooms. The plumbing fixtures consisted of three water closets (one in the cellar), 2 baths, 2 wash basins and 2 sinks—one set of fixtures in each house. The attic rooms were deficient in light and the ceilings in same low and sloping. There were no fire escapes.

There is an increasing number of families living in "light housekeeping" rooms, many of these with only one room in which to cook, eat, live and sleep. A large number of these people have become used to this mode of living, but there must be many who would rent small cottages if only they were available. We feel certain that cottages of say four rooms would

rent or sell as fast as they could be built. During the present shortage of small houses we are reluctant to take action in many cases that come to our notice. To do so would cause considerable hardship upon many families who would find it difficult to obtain more suitable quarters. The crowding together of families in the manner described is undesirable from other points of view besides that of health. Individual family life cannot be obtained under such conditions; there is no opportunity for proper housekeeping; there is a lack of privacy; morals are blunted, etc. The fire risk is also much greater and the chances of escape if fire did occur would be very slim; this applies especially to the occupation of attic rooms.

Dampness in basement suites is a fairly common cause of complaint. Many of our older apartment blocks were built without due regard to the proper disposal of subsoil water. The outer walls are frequently found to be unprotected by waterproof material, surface water percolating through the ground around the building is absorbed and the inner walls become quite damp. In several instances during the year the owners had the ground around the buildings excavated, the walls plastered with cement and coated with asphaltum, and subsoil and weeping drains installed or repaired, with very good results.

We are frequently requested by tenants to close suites, often on very flimsy excuses. We find, however, that many of these complaints are registered with a view to breaking the lease. It is not our policy to be party to this. The owner is always given an opportunity to remedy any defects that we may discover and closing notices are only served when other means fail and conditions are sufficiently bad to justify such action. It is seldom necessary to take such drastic measures.

Respectfully submitted,

ALEX. OFFICER,

Tenement and Supervising Inspector.

Report of Smoke Inspector

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Sir:

I respectfully submit herewith report on smoke nuisances and their abatement for the year 1924:

Smoke Inspections

	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Observations—													
Chimneys and Smoke Stacks	42	15	41	15	12	14	12	10	23	25	57	57	323
Inspections of Furnaces and Boiler Room Equipment	85	87	137	86	89	81	92	71	85	95	171	153	1,232
Totals	127	102	178	101	101	95	104	81	108	120	228	210	1,555
Notices—													
Statutory	2	2		1	1				2	2	3		13
Verbal	24	12	36	15	12	2	2	1	3	13	37	15	172
Totals	26	14	36	16	13	2	2	1	5	15	40	15	185

For the past few years an educative and persuasive policy, in preference to the extreme course of prosecution, in the matter of smoke abatement has been followed. This has been continued with, I believe, satisfactory results.

This has necessitated constant vigilance, however. Recurrences of smoke nuisances due to either carelessness or change in fuel have been numerous.

I am of the opinion, therefore, that advantage is now taken of the leniency shown, and that if instructions were given to prosecute offenders after reasonable warning, the recurrences would be less numerous. Such instructions would also be to the advantage of the Hydro Central Heating Plant and owners generally.

During last fall one day's observations showed twenty-five firms violating the Smoke By-law in the central district alone.

Some of these have created no nuisance since that time but others have constantly required supervision.

It is interesting to note that a large number of the premises supplied with steam from the Central Heating Plant were seldom under observation. The owners were apparently alive to the lack of economical steam generation when emitting black smoke from their chimneys and naturally these same owners were prepared to encourage developments in order to still further reduce their heating expenses.

The loss in soot or carbon is relatively small in comparison to the total weight of fuel used, but the loss in high flue temperatures with consequent incomplete combustion of the carbon to carbon-monoxide instead of carbon-dioxide means sixty-nine per cent. fuel loss.

Installing of electrical steam and hot water boilers are under way, the former type being used in connection with steam laundries and the latter in apartment blocks. The temporary lack of electrical energy, however, has probably curtailed more extensive development.

The American coals have been extensively used for steam generation purposes; Pocahontas, Youghiogheny, Elkhorn, Miller's Creek and Red Star were the principal fuels imported.

Pocahontas is a semi-bituminous coal and the remainder are of the bituminous class.

The former can be burnt practically without smoke, but the other coals mentioned above require careful firing. Youghiogheny is probably the worst coal from a smoke viewpoint, on a hand-fired boiler, if provided with an ordinary setting.

There is always the tendency for a fireman to cover his grate bars heavily with green coal, resulting in the emission of black smoke and loss to the owner.

The alternate or coking method of firing, together with excess air admission over the fuel bed, will often result in the density reduction of the smoke emitted. However, the available draft, the area for air admission through the grates, the grade of fuel, the depth of fire carried and general knowledge of the fireman are important contributing factors.

Fire light and often is a good maxim, but this cannot always be carried out.

Recently I had occasion to call at an apartment block and found the janitor's wife acting as fireman. The sectional boiler had been heavily charged with coal. Her husband, she stated, had gone to the City.

The most economical method of burning bituminous coal is by using mechanical stoker equipment or a specially constructed oven for coking purposes.

Semi-bituminous coals alone or a mixture of semi-bituminous and bituminous in the proportion of three to one are more satisfactory for hand-fired boilers.

Mechanical stoker equipment at present in use in this City is as follows:

Underfeed Stokers	15
Boney Stokers	7
Chain Grates	21
Allan Stoker	2
Coking Ovens	11
Murphy's	5

Generally speaking, smoke conditions in the various apartment blocks and business houses have been fairly satisfactory.

Sub-bituminous coal from the West, Pocahontas, Saunder's Creek, Michel Coke, etc., have been used principally on domestic furnaces.

The increased use of soft coal is very noticeable, especially when the humidity of the atmosphere is high.

Relatively low chimneys add their quota of smoke and the results at times cause considerable annoyance to the general public. It is quite possible, even in domestic furnaces, to considerably reduce the smoke density by firing one side of the firepot only at one time, thus leaving one side of the fire-bed for ignition of the volatile gases. Excess air over the fuel bed is also necessary. Whether a temperature is maintained sufficiently high for complete combustion, depends on the attention given to the furnace and also the weather conditions prevailing. The latter will naturally govern the heat required.

Little trouble is, of course, experienced from the combustion of low volatile fuel such as coke, etc.

There have been several complaints of smoke nuisance due to low chimneys and the density of smoke emitted from same. These have been remedied by our insisting on the use of a low volatile fuel and, whenever practicable, the chimney has been extended.

We also received complaints relative to the emission of dense clouds of smoke issuing from the newly erected Koppers Coke plant at the Gladstone Street Gas Works.

This plant is the first one of its kind installed in Canada, and is especially interesting as the plant is not enclosed in a separate building. The effect of our low temperatures on the gas lines, etc., was problematical.

The plant consists of seventeen retorts or ovens connected in series. Each retort measures about seventeen feet high, twenty feet long and two feet wide. Heating chambers are provided on all sides of each retort and dampers are arranged to reverse the flow of the heating gas and thus maintain an even temperature on all sides of the retorts.

Producer gas is the heating medium, but an auxiliary arrangement for heating with illuminating gas is installed.

The retorts are charged from an electrically driven hopper carriage. The hopper is divided in two sections, the discharge ends being provided with movable sleeves which fit tight against the charging doors of the retorts. The coal is discharged from the hoppers by the manipulation of levers. Each retort has a capacity of six and a half tons.

An "ascension" pipe (provided with an opening valve at the top) leads to the foul gas line. The valve is for the purpose of removing tar deposited on the sides of the ascension pipe.

The coke is removed by a "pusher" operated from an electrically driven machine fitted to a bogey and traverses the total distance of the retorts. This machine is also equipped with a levelling rod or arm and is used for levelling the coal during charging. When the plant was first used dense clouds of smoke were emitted during charging of the retorts, both from the retort charging opening and also the open valve of the "ascension" pipe.

The gas company willingly co-operated with us in remedying defects. Steam jets were installed to the "ascension" pipes and the valves kept closed after removal of the accumulated tar. This was effective in preventing escape of gas at that point.

Many methods of charging, levelling and replacing of the charging doors were tried and a system adopted whereby the nuisance has been reduced to a minimum.

There have been times, however, during the past winter when conditions have not been altogether satisfactory, due to snow. This melted in the hoppers and caused the coal to pack. This extended the period of charging and also left the charging door partially open until the coal in the upper portion of the hopper was removed.

We consider, however, that with reasonable care on the part of the operators there should be no further cause for complaint.

In concluding my report, it would probably not be out of place to review the activities of other cities in the matter of smoke abatement.

Vancouver is now very active in this regard and numerous cities in the United States; also London, Manchester, Birmingham, Sheffield and other manufacturing centres in England have realized the fact that a City may still be an industrial centre and yet remain free from a smoke-laden atmosphere.

That the effect of continual breathing in a smoky atmosphere is injurious to the lungs and ultimately undermines the physical condition of the persons affected, is readily admitted by physicians. The damage to buildings and unnecessary expense to citizens generally, due to a smoky atmosphere, is large and amounts, in some centres, to millions of dollars annually. Smoke abatement is admitted to be one of the greatest developments of modern times, in that it insures economy in the combustion of coal and, as a result, preventing waste, thereby conserving a country's coal resources. It protects the individual from carelessness of his neighbor and ensures a healthy atmosphere to all.

There is absolutely no more reason why the atmosphere should be contaminated any more than a city's water supply. The only difference is that contamination of the latter is more quickly apparent. In the former, however, the bad effects are more gradual and result in permanent extra cost to the community.

In concluding, I may state that inspections of defective domestic furnaces, plumbing defects, inspection of hotels, public baths, comfort stations and private hospitals have been made in addition to smoke abatement duties.

Many interesting conditions developed from a sanitary viewpoint and defects were remedied on notification.

Respectfully submitted,

P. PICKERING,

Smoke and Supervising Inspector.

Report of Chief Dairy Inspector

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith a report covering the work of the Dairy Division for the year 1924.

General Conditions

General climatic and weather conditions during the year were not altogether favorable to the farmer, but, fortunately, the stability of our milk supply was not affected to any serious extent. The somewhat late spring retarded our annual clean up and issue of licenses, while the late and scant pasture indicated a poor hay crop, which, however, improved wonderfully before the end of the season. Milk producers had to feed practically all through the grazing period, while those who neglected this precaution experienced a shortage. Late seeding and slow growth, with finally a wet fall and early winter, affected both the quantity and quality of grain and fodder crops.

Considering all these adverse conditions, the milk producers are to be congratulated on their efforts towards keeping up the supply in such a manner that the average consumer had no idea that difficulties were being encountered and surmounted.

Early in the year representatives of the Milk Producers' Association (whose members reside chiefly in rural municipalities and supply the raw product to the pasteurizing plants) urged upon the authorities the necessity of placing more restrictions upon our local dairies whose herds are all tuberculin tested and whose premises, in the majority of cases, are of a high standard. They claimed that if some action were not taken a milk shortage would ensue, as they could not continue to produce milk under prevailing conditions. In view of the fact that our Dairy By-law, which brought about such tremendous improvements in regard to our local dairies, had only had two years trial, and that these dairies produce approximately half our supply, it would appear that such action as requested would be of benefit to the producer and distributor, but possibly detrimental to the consumer. A certain amount of competition would be eliminated, while a large number of our local dairymen who pinned their faith and invested huge amounts on the stability of our 1922 by-law would be squeezed permanently out of business.

We have no cause to complain of improvements effected during the past three years, and so long as we can move steadily forward there is no valid reason why we should be prevailed upon to do anything rash or precipitate which might react to the disadvantage of our citizens.

In order to thoroughly understand the cause and effect of these conditions, it is necessary to take a very broad view of the entire situation, while the views of the interested individuals or groups must be carefully scrutinized. General economic factors must not be ignored, and while with our present knowledge and experience of the problems governing the question of milk

supply, we believe that pasteurization and botting of all milk for distribution may eventually materialize, yet it is our opinion that this must be arrived at by a natural process of evolution without disturbance to the economic poise, and not by means of snap legislation, the result of a hurried decision.

Many municipalities adjacent to the city are experiencing hard times, land is going into tax sales, subdivisions are being cancelled so that land withheld from production purposes for many years is now reverting to acreage, and as such open for development. Dairying and market gardening are the best employment to which this land can be placed, and by producing such commodities as milk and vegetables close to our doors, expensive marketing is largely eliminated.

Licenses

A total of 128 licenses were issued from June 1st to the end of the year, including 122 dairies and 6 milk depots. Three dairy herds were dispersed during the year and one dairy license was transferred, so that the number of licenses in active operation at the end of the year was 125, as against 120 for the previous year.

Licenses issued may be classified as follows:

	1922	1923	1924
Dairy Farms, Raw Milk	104	114	119
Small Depots, Raw Milk	2	2	2
Small Depots, Pasteurizers	2	2	2
Large Depots, Pasteurizers	2	2	2
	110	120	125

In connection with the above licenses, 315 wagon plates were issued, including 150 dairy and 165 milk depot wagons, showing a net increase of 15 over the previous year. These 15 extra wagons indicate a slight increase in gross and per capita consumption over the previous year, although we have reason to believe that the average load carried was less than in 1923.

The total revenue derived from inspection fees, license and transfer fees, amounted to $3,221.50, based on the following particulars:

1,213 Dairy Cows at $1.00 per head	$1,213.00
3,094 Dairy Cows at 50 cents per head	1,547.00
163 Wagons at $2.00 each	326.00
4 Wagons at $10.00 each	40.00
1 Transfer Fee at $3.00 each	3.00
185 City Cows at 50 cents per head	92.50
	$3,221.50

This shows approximately a $400.00 increase over 1923, a $700.00 increase over 1922 and a $1,600.00 increase over any year previous to the introduction of our present by-law in 1922.

The Licensed Dairies

There are approximately 120 dairy farms in the Winnipeg district described under the regulations as Class "A" dairies, which entitles them to sell raw milk to the consumer. The cattle on these dairies are all subjected to the tuberculin test, while the buildings and equipment are, in the majority of cases, of a definite standard. A large number of these dairymen have been in business many years, and have practically made a life study of milk

production and handling for market. It is interesting to note that of the 120 proprietors, 13 have been in business for 20 years or more, while 8, in addition to the above 13, have been with us for 15 years. Those who commenced as workers on other dairies and, after gaining experience and saving money, went into business for themselves number 40, or one-third of our present total, which furnishes a splendid example of what can be achieved in this country by those who are willing to work and ready to grasp the opportunity.

Of recent years another class represented by the descendants of our older dairymen has manifested itself and 8 of these are now operating their own dairies. We must also remember that probably 50 per cent. of our dairymen had experience previous to their locating in the Winnipeg district.

Two of the licensed dairies produce what is known as certified milk. This is a high grade raw milk, produced under special provincial regulations, and subject to special provincial control in addition to such inspection as may be exercised by the City.

The Class "A" dairies supply almost one-half the entire milk supply of Winnipeg, and when we consider the effect that all the above mentioned factors have on the quality of the milk, and borne out in recent years by all the regular tests, we can readily understand how it happens that some of these dairymen succeed in obtaining and holding a first class milk route, with patrons so satisfied as regards quality that they are willing to put up with any irregularity of time or methods of delivery.

In regard to location, the 120 Winnipeg and district dairies are distributed over 20 municipal centres at distances varying from 5 to 18 miles from the centre of the City, the average distance being 7.25 miles.

The following table shows the location and average distance of each group from the City:

Location	Number	Average Distance (Miles)
Headingly	1	18
St. Norbert	1	12
St. Andrews	1	14
St. Pauls	1	8
St. Vital	1	10
St. Boniface	1	4
Brooklands	1	4
Transcona	1	8
Oak Bluff	1	10
Assiniboia	4	8
East Kildonan	4	7
Stony Mountain	4	11
Charleswood	5	8
Tuxedo	8	7
Winnipeg	8	4
St. James	9	5
West Kildonan	13	5
Old Kildonan	15	6
Fort Garry	18	9
Rosser	23	8
	120*	7.25†

* Total dairies.
† Average distance (miles).

The average herd of these dairies numbers 36 head, of which 30 are milk cows, 5 head of dry or young stock and 1 bull. The smallest herd consists of 5 head and the largest of 216 head.

Including approximately 180 private cows in the city, we have a grand total of 4,500 head of cattle under the tuberculin test in the Winnipeg district.

Improvements

During recent years the casual visitor to any of the dairies in the Winnipeg district has been impressed with the many changes for betterment which have taken place. An adequate supply of milk and an increasing supply in the immediate district has enabled us to hold out for first class conditions in regard to all new applications for license. Two of our older dairymen during the year built entirely new modern premises at a cost of $15,000 each for buildings and equipment, add to this $10,000 for the dairy herd and delivery outfit, $5,000 for land and dwelling house, and we find a total investment of $30,000 each is represented. In addition to the above, several new premises on a somewhat smaller scale have been constructed, while a number of older stables have been remodelled and fitted with sanitary steel stalls and automatic individual water bowls.

Many people have had the idea that these dairies were only of a temporary nature, and this probably was the case until quite recently, especially so when we consider the small area of land pertaining to the dairy, generally 5 or 10 acres.

Conditions in the adjacent municipalities have, however, undergone a change, and the dairyman has been enabled, at a reasonable cost, to increase his holdings and rent or lease suitable areas for pasture and cultivation, while, at the same time, he has discovered that by a judicious use of the manure produced on the dairy, that he can grow huge fodder crops on a small acreage, and, in this connection, several silos have been constructed for storage of winter feed.

As an example of the progressive spirit which exists, we have several instances where a number have clubbed together and put in a pole line for light and power, and now have the advantage of electric light in all buildings, motors for pumping and bottle washing, water heaters for washing and sterilization, in addition to all the usual household conveniences.

The Tuberculin Test

The most noteworthy feature in regard to the tuberculin test during the year consists of the large number of dairy herds which have gone through a clean test, while several herds have provided two successive clean tests, and the results obtained would appear to prove that in so far as our dairy herds are concerned, bovine tuberculosis is under practical control, and that the effort and expense entailed has been crowned with success. In thanking the Federal Department of Agriculture for the able and efficient manner in which their officials have carried on this work, and for the splendid manner in which they have co-operated with this Department, we may also congratulate them on the actual results, and trust that they will continue the good work and maintain and consolidate a position, the attaining of which was difficult and costly.

The expense incurred in paying compensation is now within reasonable bounds, and much less than during the first two years, while the actual expense of administering the periodic tests is fairly constant, so that we may safely say that the worst is over.

The Federal Government policy of municipal testing was discontinued in October, 1923, and only those municipalities which had previously been accepted now have the advantage of those regulations.

Compensation paid to Winnipeg dairymen during the first two years testing amounted to $221,086.67:

April 1st, 1922, to March 31st, 1923	$158,037.34
April 1st, 1923, to March 31st, 1924	63,049.33
	$221,086.67

Very few re-actors are now found in the original herds. The herds pertaining to new dairies, in most cases, provide a large proportion of diseased animals, while additions to herds are responsible for many.

The following table shows the result of the last complete test on the main herds as recorded for Period "A," October 1st, 1923, to March 31st, 1924, and for Period "B," April 1st, 1924, to September 30th, 1924:

	Test "A" 1923	Test "B" 1923	Test "A" 1924	Test "B" 1924
Herds Tested	105	107	111	115
Cattle Tested	3,060	3,324	4,110	4,010
Re-actors	208	144	204	163
Percentage of Re-actors	6.8%	4.3%	4.9%	4%
Herds Free from Disease	52	67	54	101

The rise in number of re-actors from Test "B," 1923, to Test "A," 1924, is due to a number of large new herds coming in.

Test " A," 1924

In this period the general test on 111 main herds, containing 4,110 animals, produced 204 re-actors of which 4 herds were responsible for 70, 10 herds had two re-actors each, 22 herds had only one re-actor each and 54 herds had a clean test.

During this period a total of 6,480 animals were tested, of which number 2,143 were represented by new herds, additions, and natural increases brought under a first test. Total tests conducted numbered 8,563 and total re-actors 958, of which 754 occurred among those animals undergoing their first test.

Test " B," 1924

This test, covering the six months ending September 30th, applied to 115 main herds, containing 4,010 animals, of which number 163 were found to be re-actors, while 101 out of 115 herds provided a clean test, and 9 of the remaining herds had only one re-actor each.

During the same period 1,875 additions were tested, bringing the total cattle tested to 5,885, and the total of tests conducted to 8,755.

A total of 483 re-actors were discovered, of which number 320 were attributed to new additions, while 163 were cattle which had been previously tested.

The above results clearly demonstrate the wonderful progress achieved by systematic methods. Previous to the Federal Authorities undertaking this work, we never expected to find a dairy herd with a clean test, while the first test conducted under the M.T.O. revealed only two small herds free from disease, and these had been built up from tested sources, the balance of our dairy herds being found anywhere from 30 to 90 per cent. diseased, and yet within two years we have a test showing over 100 herds free from disease.

There would appear to be no doubt that systematic testing with elimination of all re-actors and suitable disinfection gives definite results, while other precautions, including isolation of additions, individual drinking bowls, suitable disposal of manure, protection against stagnant pools, improved light, ventilation, and air space in stables, have all tended towards rendering such results permanent, and have succeeded in changing a district which was evidently a hotbed of infection for bovine tuberculosis, into a district abounding with healthy cattle and prosperous dairies.

There is no doubt but what the introduction of the Federal tuberculin test has been of great benefit to the dairymen and to the dairy and live stock industry, to the health and comfort of the dairy cow, and to the thousands of milk consumers in our city.

Milk Depots

The number of licensed "milk depots" has remained constant at six for several years, including the two large pasteurizing plants and four small depots, two of which handle pasteurized milk and cream for a wholesale business only, while two handle at retail raw milk from a tuberculin tested herd.

The two large pasteurizing plants obtain their supply from approximately 800 dairy farms in the country and, owing to the abundant production during recent years, they have been able to carefully select any new shippers from a large waiting list, and at the same time they have taken advantage of the opportunity for weeding out most of the undesirables.

Each company maintains its own laboratory and milk inspection service, and all shipments received are subjected to close examination as to acidity, cleanliness, quality and bacteria content, thus they are able to avoid the use of inferior milk for domestic purposes, and are furnished with a fair indication of conditions under which milk is produced and handled on the farm.

On account of our small staff and appropriation available for the purpose of country inspection, we have only been enabled to take an occasional view of the situation in regard to these milk shippers, but the information we have obtained indicates that a large number of them are very well equipped and instructed in the work, and the condition of the majority shows that a considerable improvement has been effected during the past few years.

The pasteurizing plants themselves employ the best available in methods, machinery and equipment which long experience has taught them as being necessary for the successful handling of milk, while their policy of standardizing on a higher level than formerly has gone far towards popularizing their products.

City Cows

Approximately 185 cows, owned by 178 private citizens, are maintained inside the city limits. The majority of these are housed individually and separately in 166 small stables at the rear of private dwellings on city lots.

Considerable improvement has been manifested during the year in regard to the construction, care and sanitation of these stables and the immediate surroundings, and very seldom do we find conditions detrimental to the health of the cow, or of such nature as to be considered a nuisance. The fact that these cows are isolated individually goes a long way towards protecting them against any recurrence of tuberculosis, and the majority of owners now are well instructed as regards the regulations and the proper procedure when making replacements or purchasing another cow. The half dozen or so cow dealers with sales stables located inside the city generally have on hand from 10 to 30 cows, with a daily average of 15 cows on hand, and average sales of 5 cows daily to citizens or licensed dairymen. The majority of these animals are shipped in from eastern points, and the balance obtained locally from provincial points or from the stockyards. These animals are all eventually tested, with the possible exception of some of those sold to outside country districts.

The 8 licensed dairies located inside the city have 325 cows, which bring the number of cows constantly in the city up to 525, calculated as follows:

8	Licensed Dairies	325 Cows
178	Private Owners	185 Cows
6	Dealers, Average on Hand	15 Cows
	Total	525 Cows

Milk Consumption

Once again we have to report a slight increase in total and per capita consumption, and the fact that this increase is not due to any abnormal condition brought about by unusual methods such as excessive advertising or boosting, warrants us in framing the opinion that the public are becoming thoroughly educated as to the value of milk as a food, and that they have confidence in the milk supply provided; therefore, any increase in consumption noted will be permanent, with possibly a further rise in future years, until the maximum is reached.

The present daily per capita consumption of 0.625 pints is equivalent to 0.75, or three-quarters of a pint in American measure, and very few American cities show such a consumption. We must also remember that in our calculations no account is taken of sweet cream, whipping cream, coffee cream, cultured milks, buttermilk, evaporated milk, condensed milk, or milk powder, of which we know large quantities are consumed.

Our figures are based on fresh milk consumption only, and knowing that our present infantile and school population is high in proportion to the number of adults, we have been very conservative in preparing these figures.

The following table shows the steady increase in total and per capita average daily consumption during the past six years, and the variation in number of vehicles required for distribution:

Consumption and Distribution

	Pints Per Capita	Gallons Per Day	Vehicles
1919	0.52	13,000	230
1920	0.54	13,000	220
1921	0.55	13,500	240
1922	0.58	14,500	275
1923	0.60	15,000	300
1924	0.625	15,250	315

Quality of Milk

The quality of milk and cream as supplied to the consumer has been maintained at a fair standard as regards butter fat content, cleanliness and wholesomeness during the year. We have had no case of deliberate adulteration or addition of water, and while a few samples showed a slight deficiency in butter fat, a warning was generally sufficient to cause more careful methods and an immediate improvement.

In one or two cases where conditions indicated deliberate skimming, or where a warning had no effect, it was necessary to resort to police court proceedings. The sediment test occasionally revealed too much dirt, but this was the exception rather than the rule, and was never found to be persistent in regard to any particular milk. Chemical tests for preservatives, coloring matter, etc., were made regularly during the year, and in no case was there a suspicion of any irregularity. Bacteriological examinations show quite an improvement over previous years.

The results of all samples examined would indicate that the average milk as supplied in Winnipeg runs around 3.6 per cent. butter fat.

Methods of handling and delivery have also improved, and all these things are conducive to a safer, cleaner, and better supply. More attention is being paid to general cleanliness and sterilization of utensils, the use of sanitary milk strainers and suitable milk coolers. Many dairymen who formerly only thought it necessary to cool milk during the hot weather, now realize the advantage of thorough cooling all the year round. The installation of suitable bottling outfits on several dairies has also been conducive towards ensuring uniformity and quality in the milk so handled.

Condemnations of milk and cream during the year amounted to 11,636 lbs., including 10,510 lbs. milk and 1,126 lbs. cream. The milk condemned was chiefly contaminated by weeds or feed, which gave it a disagreeable flavor and rendered it unwholesome, while the cream was a portion of that received by local creameries and placed in the "No Grade" class by the Provincial Government Grader, such cream being putrid, rancid, or contaminated in such a manner as to render it unfit for manufacture into butter, in which case the shipper loses the cream, while the creamery loses the express charges paid.

Classification of Milk Supply

The classification of our daily milk supply shows some changes from that of previous years, chief of which indicates an increase in the consumption of raw milk from tuberculin tested herds. The total average daily consumption for 1924 was 15,250 gallons, including 7,050 gallons of raw milk from tested cows, and 8,200 gallons of pasteurized milk. With the exception of a small wholesale trade, the whole of the pasteurized milk is delivered in bottles, while from ten to fifteen per cent. of the raw milk is bottled on the farm, the balance being delivered in cans.

Sickness on Dairies

A total of 19 cases of sickness occurring on dairies were reported and investigated, of which 9 cases were of an infectious or contagious character. Precautionary measures suitable for each particular case were adopted, and fortunately in no instance was there any evidence of anything being carried or spread by the milk route.

Country Inspection

Dairy inspectors travelled 11,901 miles outside the city and paid 2,965 visits to dairies, farms, milk and cream stations, etc., during the year, the average distance per inspection being approximately 4 miles.

About two-thirds of our country visits are in connection with the licensed dairies from which the city obtains a large amount in fees, and considerable of our time taken up checking and pressing for payment of said fees could possibly be spent to better advantage if we stuck more strictly to conditions regarding health and sanitation.

In our opinion, no inspection of the product can altogether replace inspection at the point of production, yet of recent years our country inspection service has been brought within very narrow limits, while hundreds of producers in the country have practically no inspection with the exception of that provided by the companies to whom they ship their product.

A safe, pure milk supply under adequate control and constant supervision is of paramount importance in any urban community. The rearing of children and the building up of our youth physically and mentally depends to a great extent on the efficiency and adequacy of our milk supply, and the system under which it is controlled.

The problem of ensuring an adequate milk supply is of equal importance to the problem of ensuring a suitable water supply, and provides many more difficulties of operation.

The problems governing production, storage and distribution, which are comparatively simple in regard to water, become extremely intricate when applied to milk, which, being of a highly perishable character, must be produced fresh daily, while, in addition, we have the unfortunate fact in regard to the adaptability of milk as a carrier of pathogenic organisms.

The Dairy Industry

In previous reports we have mentioned the disappearance of the cheese factory from those districts invaded by the large city milk companies, and we have frequently deplored the fact that such factories had not been removed or replaced at points further afield, and so prevent so much surplus milk being shipped to the city during the summer.

Last year several small cheese factories were started at different points, and we believe that they enjoyed a fairly satisfactory season. Movements of this character should go far towards solving the surplus milk problem, and at the same time provide the dairy farmer with another outlet for his product.

In spite of the fact that our rural population has practically been at a standstill during the past five years, we have in the same period shown a tremendous increase in dairy produce, which will undoubtedly bear fruitful results in the future.

According to reports furnished by the Dairy Branch of the Provincial Department of Agriculture, the production of butter in the province shows an increase of 5,000,000 lbs. in 1924 over the year 1920, while during the same period the amount of butter exported from the province increased from 57 carloads in 1920 to 198 in 1924.

With these figures and facts regarding actual conditions in front of us, we cannot understand the pessimistic outcries with which our ears have occasionally been assailed. As indicated previously in this report, there is nothing wrong with dairy farming in this province. The opportunity is with us all the time, awaiting the willing worker.

I have the honor to be,
Sir,
Your obedient servant,
E. C. BROWN,
Chief Dairy Inspector.

DAIRY INSPECTION, 1924

	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inspections: City	64	46	14	2	2	..	11	13	3	2	53	48	258
Cow Keepers	..	..	7	9	7	8	7	7	7	7	7	7	73
Cow Dealers	44	43	35	26	24	30	17	37	24	37	36	36	389
Pasteurizers	11	7	7	8	2	3	5	3	6	9	5	8	74
Milk Depots	52	25	44	55	50	44	31	47	42	47	50	59	546
Creameries	..	..	..	1	..	..	..	2	..	..	..	..	3
Milk Stores	169	187	195	195	184	177	110	162	170	221	155	146	2,071
Vehicles	46	13	9	7	3	6	10	8	13	17	31	21	184
Special													
Total	386	321	311	303	272	268	191	279	265	340	337	325	3,598
Notices—													
General	..	..	..	..	..	113	..	196	120	..	..	..	429
Special	19	13	2	1	10	5	2	3	13	22	..	2	92
Formal	..	1	..	..	19	..	2	..	10	6	2	..	40
Verbal	23	29	41	31	42	52	32	29	21	37	38	26	401
Total	42	43	43	32	71	170	36	228	164	65	40	28	962

DAIRY INSPECTION, 1924—Continued

	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inspections: Country—													
Licensed Dairies	101	134	143	131	173	205	162	191	194	169	157	163	1,923
Milk Shippers	4	31	28	13	48	130	141	114	85	42	35	7	678
Cream Shippers	....	....	....	....	13	4	16	40	10	11	3	[illegible]	99
Milk Stations	....	....	....	9	11	1	4	....	2	1	3	....	31
Cream Stations	....	....	....	....	2	....	....	....	....	1	....	....	3
Creameries	4	1	2	1	....	....	....	....	1	2	1	....	12
Milk Depots	6	4	5	4	3	4	2	3	4	6	3	4	48
Special	7	9	6	10	37	14	24	4	21	13	16	10	171
Total	122	179	184	168	287	358	349	352	317	245	218	186	2,965
Mileage: Country—													
Inspector A	275	345	410	445	735	700	840	790	705	630	480	360	6,715
" B	210	235	180	225	300	494	504	516	420	250	172	60	3,566
" C	55	100	105	95	160	190	135	140	180	195	135	130	1,620
Total	540	680	695	765	1,195	1,384	1,479	1,446	1,305	1,075	787	550	11,901

DAIRY INSPECTION, 1924—Continued

	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Samples Tested—													
Babcock: Milk	64	87	84	79	89	68	51	89	78	57	70	43	859
Babcock: Cream	5	8	4	7	14	10	5	13	16	20	8	12	122
Bacterial Counts	36	31	24	39	32	24	30	32	31	40	30	14	363
Sediment Tests	....	....	33	11	38	35	17	6	8	75	....	....	223
Chemical: Milk ..	42	24	24	16	24	18	18	23	8	16	12	4	229
Chemical: Cream	10	8	8	8	8	6	6	7	4	8	6	2	81
Total	157	158	177	160	205	161	127	170	145	216	126	75	1,877
Condemnations													
Milk, lbs.....	....	160	320	....	....	1,310	2,566	660	740	1,930	2,694	130	10,510
Cream, lbs..	80	180	50	156	....	50	....	410	180	....	50	50	1,126
Total	80	340	370	156	....	1,360	2,566	1,070	920	1,930	2,744	180	11,636
Sickness Investigated -													
Communicable	2	....	....	2	1	....	2	....	2	....	....	....	9
All other cases	2	....	2	1	....	....	....	....	....	2	2	1	10
Total	4	....	2	3	1	....	2	....	2	2	2	1	19

Report of Chief Food Inspector

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I herewith beg to report on the activities of the Food Division for the year 1924:

Due to the business depression, conditions were difficult the past year, alleviated to some extent, as far as our work was concerned, by the cool summer and favorable weather in the fall for harvesting vegetables.

We had considerable trouble with people carrying on food manufacturing operations in private houses or suites. It is hardly necessary to state the objections to these operations, one very good reason being referred to later.

Quite often these people when corrected are indignant, but are the first to report anyone not complying with the regulations after they themselves have suitable premises and conditions.

There was a slight increase in the number of premises under inspection, located principally on the outskirts of the City and corners in residential districts.

Abattoirs

One of the abattoirs did considerable remodelling, putting in new facilities for smoking and curing bacon.

We had no complaints which were justified regarding the emanations from these plants, one complaint we received being found to implicate not an abattoir but a tannery, where the scrapings from sheep pelts were being burnt in the furnace at night.

Bakeries

Considerable money has been expended on bakeries, somewhere in the neighborhood of half a million altogether being expended in installing travelling ovens, renovating and extension of premises. The matter of taking cakes back from stores by some of the small cake bakers was gone into, and warnings given that the regulations applied to cakes as well as bread.

Bottling Plants

Due to climatic conditions, these places did a limited business, the smaller plants hardly operating at all, and others only spasmodically. Any tests taken indicated the facilities for sterilizing the bottles were adequate.

Complaints

We had three complaints last year of persons affected by the consumption of infected meat. These will be given in some detail, because they illustrate some of the difficulties of food inspection, and one at any rate indicates the necessity of people supplying food to the public being required to procure a permit, to see that we are assured conditions are suitable for carrying on that particular class of business. All of them indicate that food stuffs may be infected with pathogenic organisms, without indicating their presence by odor or appearance, the usual signs for unwholesomeness in food.

All the meats implicated were government inspected, which would indicate that the contamination was a subsequent contamination after killing, or that the infection was in the neighborhood of the bone joint, and gave no indication of its presence under routine inspection.

No. 1 Case—A physician phoned one Sunday night, reporting that the previous evening four persons had been poisoned, presumably from eating cheap chewing gum.

I proceeded to the place and found a lady had been over to the store on Saturday night about 5 p.m. and, among other things, had bought two one cent packages of chewing gum; each package contained 2 sticks, one of these she ate and gave the other three to her children. About nine p.m. the four persons indicated became quite ill with vomiting, faintness, and the usual symptoms accompanying attacks of food poisoning, which continued up till midnight. All had practically recovered next day.

My investigations revealed that most of the foodstuffs consumed at the previous meal, about 6 o'clock, were home-made, consisting of home-made bread, jam, and a portion of a ham which had been purchased the previous Monday and had been partaken of all week. Since the symptoms did not indicate arsenical poisoning, or anything liable to implicate the chewing gum, attention was directed to the ham, but on this appearing quite normal in smell and appearance, and the lady persisting that some of those affected had not eaten any, no sample was taken at that time.

A few days after, when I reported that the chewing gum was normal, she admitted that the four persons were the only ones who had eaten the ham on the Saturday night. By this time the main portion of the ham had been destroyed, and the scraps recovered were examined, and a considerable growth of an organism resembling B. Coli, which, however, did not prove pathogenic for guinea pigs, was recovered.

Case No. 2—This case was from a sample of veal loaf purchased at a store. Six people, 4 adults and 2 children, were affected. The meat had been purchased to make sandwiches for a picnic. Two children who did not eat the veal were unaffected, while visitors who did consume some were quite ill. The symptoms were the usual ones, and commenced about four hours after the ingestion of the food.

We subsequently found that this veal loaf was made in a suite occupied as living rooms. The accommodation was quite inadequate for carrying on this class of business, and indicated the necessity of people being required to obtain a permit before starting this class of business. Examinations made of the gelatine used indicated it to be normal. Growths of B. Coli and Staphylococci were isolated, which proved pathogenic for guinea pigs.

Case No. 3—On Christmas Eve, I received a phone message from a physician that six people had been poisoned, presumably from the consumption of food. On arriving at the place, I found an elderly lady, her married daughter, two grown up sons, and two young boys, affected. Three of these had been taken to the hospital.

The symptoms were different to the other cases, as they did not appear till 12 hours after ingestion of the food. The pronounced symptoms were collapse, vomiting and cramps, absence of diarrhoea, and indicated an infection rather than an intoxication, as in one of the cases, the symptoms recurred for three days.

Attention was directed to a meal of ham, catsup, and cabbage, consumed the night previous. The cabbage had all been consumed, but as portions of this had been eaten at previous meals without ill effects, it was not thought important. The ham and catsup were taken, and as the catsup had been newly opened while the ham had furnished previous meals, it was immediately examined. No bacterial growth or mineral poisons were obtained, so attention was directed to the ham. On cutting farther into this, while no abnormal smell was present, a little greenish tint was discernable around the joint. A culture taken from this point showed a luxuriant growth of B. Proteus and B. Streptococci, which subsequently proved pathogenic for guinea pigs. Hauser describes a similar case in "Ostertag's Meat Inspection," page 568, as follows:

"Hauser describes a case of formal symbiosis between streptococci and the chief species of putrefactive bacteria, Proteus Vulgaris in an ichorous abscess formation. It was believed that the process was to be explained by assuming that the streptococcus infection followed a necrosis of the tissue, which made it possible for Proteus Vulgaris to multiply. In this connection, Hauser cites the well known experiments of Monti, from which it is apparent that streptococci which have already lost their virulence toward normal animals may again attain it if the animals are inoculated at any point whatever with the metabolic products of cultures of Proteus. If these observations may be generally applied, we would have to do with a formal symbiosis between streptococci and Proteus. The streptococci multiply in the living tissue and make possible the vegetation of Proteus by their necrosing action. Proteus, however, in consequence of the poison produced by it, weakens the resisting power of the tissue and thereby renders more easy the entrance of streptococci, which simultaneously undergo an intensification of their virulence."

Condemnations show an increase over last year, being 75,316 lbs., as compared to 66,668 lbs. last year. This increase was principally due to a carload of frozen celery, weighing 14,300 lbs., in December, otherwise the year has been exceptionally favorable for the preservation of food, the cool summer and long fall all tending to reduce the amount condemned.

The meat coming in from uninspected sources was considerably curtailed, in a great measure due to the co-operation of the Provincial Board of Health, who are giving each licensed establishment a number, so that it is possible to check up the source of shipments. Several shipments, such as boar pork, animals improperly bled, etc., were shipped back to the owner, in order to illustrate that these did not comply with our regulations.

The amount of poultry condemned was much less, due, in a great measure, to the circulars sent out last year illustrating the proper methods of killing and handling poultry, the total amount for the whole year being less than the amount condemned in the month of December the year previous.

One rather disturbing feature, however, is the amount of condemned poultry affected with tuberculosis.

While avian tuberculosis is not admitted to have the pathogenicity of the bovine or human type, it is still admitted that it is possible to receive infection from contact with it by those whose resistant powers are lowered in respect of tuberculosis. The objectionable feature is, that since birds are not drawn, the infected portions are not removed or exposed like other meats to air and sunlight, conditions inhibitive to germ life. Consequently, the housewife who

is drawing the fowl cannot help getting her hands contaminated from the infected viscera, since the liver is invariably the portion affected. Should she be ignorant of the nature of the disease, no precaution is taken to thoroughly disinfect the hands or articles which may have been in contact with the infected material. It would seem desirable that some publicity should be given to this matter, in order that consumers may take adequate precautions.

Egg Handling Plants

We have co-operated with the Dominion Government in enforcing the regulations regarding the grading of eggs, which has resulted in curtailing the activities of peddlers who were selling storage eggs for "fresh" eggs.

Flies

Due to climatic conditions, and possibly in a measure to our activities during the previous winter in taking measures to prevent flies hibernating in bakeries or other warm locations, the fly nuisance was never noticeable. However, we anticipate more seasonable weather next summer, and are not relaxing our vigilance regarding winter quarters where these pests may lurk. One bakery was prosecuted last March for keeping a fly nuisance.

Fruit and Ice Cream Peddlers

These were fewer in number and complaints nil.

In anticipation of conditions, approximately 1922, when frozen oranges were more or less commonly offered for sale, we had passed a by-law regulating the sale of these. The fact of having the by-law has already had a salutary effect, as, in one case at any rate, we were able to prevent the entrance of oranges of this nature, by forwarding a copy of the by-law to a broker who was contemplating bringing in some frozen oranges.

Poultry Slaughter Houses

Due to the Live Stock Branch of the Dominion Government buying up carloads of live and dressed poultry at local points, we did not have nearly the amount of live poultry coming into Winnipeg, in fact, some of the smaller poultry houses only operated for a week or two around Christmas.

Consequently, we did not have any trouble from this class of business.

Prosecutions

Prosecutions were again fewer in number, being only 7, as compared with 12 last year. Flies and other insanitary conditions in bakeries were responsible for four of these. Two were for exposing food outside, one of these was particularly objectionable, as he had fish on ice in a box, and the water from this was running across the sidewalk, attracting flies, and otherwise creating a nuisance. The other case was a Chinaman who persisted, in spite of repeated warnings, in keeping food in the original cans, sometimes for days after they had been opened.

Retail Stores

While business did not warrant any extensive improvements, most of the retailers were trying to keep up as good an appearance as conditions warranted.

I attended three meetings of the different sections of the Retail Merchants' Association, and told them what we hoped to accomplish by education rather than passing any more legislation. The result has been, that without passing any further regulations, more butchers have installed sanitary fittings and glass partitions in front of their counters than in any previous year.

Restaurants

Due to the absence of transient visitors, the restaurants had a very trying year. Quite a number closed up, but there always seemed someone to take their places, so that the total number is greater than last year. One rather disturbing feature is the number of Chinamen, as these people do not help to build up a city, and when they sell out, invariably take the fortune they have made here out of the country.

I have once more to record my appreciation of the willing services of Inspectors Foote and Mines.

I also wish to acknowledge the co-operation I have received outside our Department from Dr. Cadham, of the Provincial Board of Health, and Mr. Blackie, City Chemist, in conducting investigations in cases of food poisoning.

Respectfully submitted,

ARTHUR RIGBY,

Chief Food Inspector.

PREMISES AND IMPROVEMENTS

Description of Premises	Number of Places	New Modern	Cement Floors	Renovated	New Plumbing	Remodelled
Abattoirs	4	....	....	3	....	1
Auction Rooms	2	....	....	....	....	1
Bakeries	61	3	1	22	1	8
Bars	14	....	....	3	....	....
Biscuit and Cereal Factories	2	....	....	....	....	....
Bottling Plants	15	1	1	3	....	....
Breweries	5	....	....	2	....	....
Butcher Shops	228	9	1	35	7	4
Butter Rooms	5	....	....	1	....	....
Candy Factories	26	4	....	3	....	2
Cold Storage Plants	6	....	....	....	....	1
Commission and Produce Houses	49	2	....	5	....	1
Confectionery & Ice Cream Parlors	359	26	1	63	4	18
Fish Stores	17	2	....	3	1	1
Fruit Houses (Wholesale)	58	8	....	4	....	2
General Stores	391	28	....	26	1	....
Grocers (Retail)	255	13	1	30	....	6
Grocers (Wholesale)	33	1	....	1	....	....
Hotel Kitchens	45	....	....	12	....	5
Hawkers' Vehicles	118	....	....	85	....	....
Jam and Pickle Factories	7	1	....	....	....	....
Markets	1	....	....	....	....	....
Packing Houses	3	....	....	1	....	....
Peanut Butter Factories	1	....	....	1	....	....
Pop Corn Factories	3	1	....	....	....	....
Poultry Slaughter Houses	6	1	....	6	1	1
Restaurants	257	18	1	114	10	22
Railroad and Express Co.'s	5	....	....	....	....	1
Sausage Factories	18	3	1	3	1	....
Tea, Coffee and Spice Houses	4	1	....	....	....	....
Yeast Factories	2	1	....	....	....	....
Total	2,000	123	7	426	26	74

FOOD CONDEMNATIONS

DESCRIPTION	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Beef	.....	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	500
Veal	.....	179	413	1,974	1,044	920	1,412	914	415	242	68	71	7,652
Pork	.....	152	510	273	.....	.....	250	.....	.....	.....	.....	.....	1,185
Mutton	.....	.....	.....	.....	.....	.....	.....	203	.....	.....	.....	.....	203
Poultry	.....	147	.....	119	50	22	53	208	150	17	1,724	2,561	5,051
Fish	.....	.....	6,900	.....	430	.....	.....	3,640	.....	100	.....	.....	11,070
Fresh Fruit	.....	.....	.....	.....	.....	.....	.....	3,110	250	340	.....	1,875	5,575
Dried Fruit	.....	.....	.....	.....	.....	.....	.....	.....	100	15	.....	.....	115
Jam	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25
Vegetables	.....	.....	.....	.....	13,664	.....	800	.....	.....	625	.....	14,300	29,389
Butter	40	.....	.....	.....	.....	.....	.....	.....	180	.....	.....	.....	220
Eggs	125	.....	.....	.....	.....	.....	1,140	502	356	292	45	90	2,550
Candy	850	.....	100	.....	.....	70	26	.....	30	347	100	.....	1,523
Biscuits	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Canned Goods	.....	.....	225	964	.....	2,590	960	492	.....	150	60	.....	5,441
Sausage	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cereals	.....	.....	.....	.....	.....	.....	.....	.....	.....	220	.....	.....	220
Nuts	600	.....	.....	.....	600	400	.....	.....	.....	.....	.....	.....	1,600
Coffee	.....	1,397	.....	.....	.....	.....	.....	.....	.....	.....	.....	400	1,797
Cheese	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	.....	.....	25
Baking Soda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Game (Rabbits)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pickles	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Syrup	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tea	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cocoa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lard	150	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	150
Baking Powder	.....	.....	.....	.....	.....	.....	.....	.....	60	.....	.....	.....	60
Miscellaneous (Extracts)	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
Milk and Cream	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sugar	50	.....	100	.....	.....	300	100	200	.....	135	50	.....	935
Salt	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	1,870	2,375	8,248	3,330	15,788	4,302	4,741	9,269	1,541	2,508	2,047	19,297	75,316

FOOD INSPECTIONS

PREMISES	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Abattoirs and Packers	13	12	15	13	11	12	10	12	11	10	7	10	136
Bakeries	64	71	94	81	82	80	80	83	91	88	89	87	990
Bakery Vehicles	62	59	57	60	63	50	44	64	53	53	55	58	678
Biscuit and Cereal Factories	8	10	8	7	10	8	6	4	6	4	6	8	85
Breweries	13	20	21	20	30	28	22	22	19	24	18	13	250
Butcher Shops	181	198	214	187	214	232	152	197	205	224	196	217	2,417
Butter and Cheese	16	13	14	16	15	11	12	8	10	12	9	11	147
Candy Factories	35	33	39	33	35	28	22	28	38	42	32	27	392
Cold Storage Plants	15	16	12	13	11	9	11	7	7	5	4	6	116
Cone Factories	...	...	...	...	...	...	...	...	...	...	...	...	...
Fish Stores	30	29	30	28	23	23	24	29	29	29	30	32	336
Fruit Stores	68	86	95	80	98	83	72	94	126	113	89	79	1,083
General Stores	375	366	390	359	383	361	266	388	397	439	381	348	4,453
Grocers	94	118	154	159	164	159	119	171	157	148	143	159	1,745
Hawker's Vehicles	29	62	76	78	107	136	112	139	126	144	94	113	1,216
Hotel Kitchens	8	18	30	38	32	29	18	34	36	30	43	32	348
Ice Cream Parlors and Confectioners	202	203	234	253	222	239	180	241	228	233	224	212	2,371
Jam, Pickle and Spice Factories	5	5	10	7	9	4	4	9	7	8	9	11	88
Markets and Auction Rooms	7	7	9	7	7	5	9	13	14	11	11	9	109
Peanut Butter	...	...	1	...	2	2	...	...	...	...	...	...	5
Poultry Slaughter Houses	6	5	3	2	3	3	...	4	9	6	7	8	56
Produce and Commission and Eggs	56	65	68	69	81	54	61	64	72	59	64	62	775
Railway Cars	5	8	1	5	3	...	4	...	...	...	...	...	26
Railway Express	3	4	4	1	...	...	...	7	4	7	4	2	36
Restaurants and Lunch Counters	198	241	313	315	313	289	153	320	310	314	298	182	3,246
Sausage Factories	23	23	31	31	23	23	13	26	21	20	23	27	284
Special	54	94	110	85	77	75	73	80	78	80	63	64	933
Temperance Bars	3	9	12	16	15	15	10	6	10	9	5	7	117
Total	1,573	1,775	2,045	1,963	2,033	1,958	1,477	2,050	2,064	2,112	1,904	1,784	22,738
Notices to Improve Conditions	78	65	99	297	142	120	110	84	89	97	107	93	1,381

PROSECUTIONS

PREMISES	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Insanitary Premises	Nil	Nil	2	Nil	Nil	Nil	2	Nil	Nil	Nil	Nil	Nil	4
Unsound Food	"	"	....	"	"	"	....	"	"	"	"	"	....
Exposing to Contamination	"	"	1	1	"	"	1	"	"	1	"	"	3
													7
No Permits	"	"	....	....	"	"	....	....	....	....	"	"	....
Amount of Fines and Costs	"	"	$41.00	$5.00		"	$24.00	"	"	$5.00	"	"	$75.00

Bacteriologist's Report

A. J. Douglas, Esq., M.D., C.M., B.A.,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith full report on the work performed in the Bacteriological Laboratory for the year ending December 31st, 1924.

The total number of examinations for the year was 18,640. This figure has been slightly decreased as compared with last year's examinations, which totalled 21,364. This reduction was due to the marked diminution of throat, nasal and ear swabs.

Immediately following is a tabulated account of the 18,640 examinations made in the year 1924 as compared with those of the year 1923:—

	1924	1923
Swabs for Diphtheria B.	13,737	18,126
Sputa for Tubercle B.	485	516
Sera Tests for Typhoid B.	39	40
Smears for Gonococci	388	348
Urinalyses	556	613
Water Analyses	542	581
Milk Examinations	1286	948
Miscellaneous	248	192
Vaccinations	1359	800
Totals	18,640	22,164

Water

During the year 510 samples of water were tested bacteriologically for any evidence of pollution or contamination. Enumeration of colonies of micro-organisms on plain agar was done on each specimen, as well as inoculating broth cultures for the detection of gas formers. The 510 samples were drawn from the following sources:

1. Domestic supply. Tap water from this laboratory was tested daily. Two broth cultures were made, one inoculated with 1 c.c. and one with 5 c.c.'s, and one agar plate of 1/10 c.c. planted each day. The bacterial counts were comparatively low, the highest being 350 colonies per c.c. and there being no evidence of any gas formers. Algae and vegetable matter were not troublesome.

2. Shoal Lake and various points along the aqueduct including St. Boniface. The samples were brought in by Mr. Blackie.

3. The Public Swimming baths, Pritchard Avenue and Cornish Avenue, were tested once every week. The highest bacterial count reached 140,000 colonies per c.c. Gas formers were in evidence on only a very few occasions.

4. Samples brought in by private individuals from residences, warehouses and wells from outside the City.

Milk and Cream

The number of specimens brought in for analysis totalled 1,286. This includes milk and cream samples examined for butter fat percentage and bacterial count.

Distribution and results follow:—

1. Samples of milk and cream taken officially by dairy inspectors numbered 1,139; of these 1,020 were milk and 119 cream. Thirteen milk samples were below standard or a percentage of 1.01%. Three hundred and fifty-seven bacterial counts were made which ranged from 3,500 to 1,800,000 colonies per c.c.

2. The Bureau of Child Hygiene had a weekly examination of whole milk, skimmed milk and cream samples from the Babies Milk Depot.

3. For private individuals 71 samples of milk, 7 samples of cream, and 1 of ice-cream were examined. Included in the above were 39 samples of milk examined for the Winnipeg District Milk Producers' Co-operative Association Limited.

Diphtheria

The total number of swabs examined for diphtheria bacilli was 13,737. These swabs taken from nose, throat and ears, were brought in by doctors, nurses, health inspectors, school nurses, Margaret Scott Nursing Mission nurses, local institutions, and summer outing camps, and out of the 13,737 swabs taken, there were 1,393 positive. The persistently positive swabs from healthy school children were examined differentially for particular type of organism Klebs-Loeffler, Hoffman or Xerosis, and those found harboring either of latter two mentioned above were allowed to resume school, and carefully instructed as to proper hygienic care.

The marked decrease in swabs in 1924 as compared with 1923 was due to the prophylactic measure of immunizing the school children with toxin anti-toxin being employed in the schools by the Health Department, thus alleviating the necessity of constantly re-swabbing throats, nasi and ears.

The usual custom of swabbing all children going to summer outing camps was carried on as in previous years. This very important procedure is being more appreciated every year, and has proven very effectual in keeping these camps free from Diphtheria infection.

Widal Tests for Typhoid Fever

The requests for blood examinations for Typhoid Fever have been low as in previous years. The total number of agglutination tests were 39, only one of which proved positive for Eberths bacillus.

Urethral Pus Smears

This includes all smears from urethra vagina and cervix examined for the presence of Neissers Infection, or Gonococci. For the year 1924 there were 369 examinations made, 69 of which were positive. All smears were stained with methylene blue, and the suspicious or positive ones were confirmed by a modification of the gram stain.

Urinalyses

Five hundred and fifty-six urinalyses were made. These included chemical, microscopical, sugar estimations, cultures and examination of sediments for tubercle bacilli. Tests were made for doctors, nurses, Bureau of Child Hygiene, insurance companies and private individuals. A small charge was made to those who could afford to pay for same. This department earned $264.50 for the year.

Miscellaneous Tests

Under this heading, 248 examinations are recorded. This includes such examinations as mother's milk; gastric contents; hair for parasites; blood counts; blood chemistry; preparation of autogenous vaccines and the examination of food brought in by Mr. Rigby, of the Food Division.

Immediately following is a Table of the work for the past year, showing its monthly distribution:

1924	Swabs for Diphtheria		Sputa for T.B.		Urethral Smears		Typhoid		Water	Milk and Cream	Urinalyses	Miscellaneous	Vaccinations	Total Examinations per Month
		Pos.		Pos.		Pos.		Pos.						
January	1105	159	44	3	19	4	0	0	46	103	34	4	239	1594
February	957	141	53	5	27	5	2	0	41	119	67	15	201	1482
March	1010	108	42	5	31	6	2	1	45	109	49	25	228	1541
April	1206	100	62	4	35	6	0	0	45	113	68	14	76	1619
May	1272	109	47	4	37	5	1	0	44	133	50	28	127	1739
June	1055	43	37	3	23	6	7	0	40	92	43	27	50	1374
July	1659	73	33	6	33	6	3	0	44	72	46	17	71	1978
August	1152	76	38	1	50	7	3	0	52	122	39	20	11	1487
September	792	75	44	4	30	6	12	0	52	160	34	23	129	1276
October	1232	229	30	8	41	8	4	0	47	99	49	23	49	1574
November	1458	194	27	7	30	5	3	0	43	97	40	25	27	1750
December	839	86	28	3	32	5	2	0	43	67	37	27	151	1226
Totals	13737	1393	485	53	388	69	39	1	542	1286	556	248	1359	18640

Free vaccination in this department was taken more advantage of this year. There were 1,359 vaccinations for the prevention of Small-pox.

Examination of school children for clear bills of health after recovery from any contagious disease was carried on as in previous years.

Few toxin-antitoxin injections were given to children for the prevention of Diphtheria.

The Laboratory was frequently called upon to do free dispensary work. The more serious cases were referred to the Outdoor Clinic of the Winnipeg General Hospital.

To Miss Wilson, my assistant, and Mr. Harry Robinson, the Laboratory attendant, I wish to record my appreciation for the faithful and satisfactory manner in which they have fulfilled their respective duties in the past year.

I am, sir,

Yours obediently,

MANLY FINKELSTEIN, M.D.,

City Bacteriologist.

REPORT OF DENTAL CLINIC

1924	Total Patients Visits	Ward Patients	Psycho. Patients	Old Patients	New Patients	Impressions	Bites	Try-ins	Dentures	Extractions	General Anaesthetic	Local Anaesthetic	Examinations	Treatments	X-Ray	Prophylaxis	Fillings	Incise Abscess	Repair and Adjust.
January	647	108	..	387	152	49	21	69	29	622	23	149	350	57	48	6	6	..	5
February	707	138	..	440	129	48	16	59	33	578	19	131	383	75	38	..	1	3	44
March	729	121	..	472	136	55	20	59	35	658	22	161	269	117	48	3	2	2	38
April	584	116	..	381	87	51	19	70	43	695	33	102	304	108	25	10	2	1	25
May	707	129	..	474	104	37	14	63	36	604	28	118	401	138	45	8	5	..	38
June	552	104	..	357	91	53	14	46	24	508	17	118	330	95	25	14	7	..	39
July	735	129	..	428	178	37	13	31	23	544	20	128	392	290	37	9	1	1	29
*August	72	44	..	9	19	..	..	.....	..	50	6	6	66	22	5	5	3	1	..
September	663	180	10	328	145	55	17	29	18	518	34	84	471	198	51	14	6	7	15
October	885	174	27	516	168	73	30	48	47	716	34	149	452	290	50	22	15	2	47
November	817	196	13	451	157	44	19	40	46	620	27	137	442	324	29	19	6	1	38
December	848	232	3	453	160	49	20	29	31	553	28	125	457	437	49	18	19	1	22
Totals	7,946	1,671	53	4,696	1,526	551	203	543	365	6,666	291	1,408	4,317	2,152	450	128	73	19	340

* Dentist on holidays part time in August.

Report of Division of Communicable Diseases

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have the honor to submit report of work done by inspectors, nurses and staff of this division during the year 1924. Attached hereto will be found tabulated monthly reports, summaries, statistical records and charts having a bearing on the conduct of this work.

Many factors are to be considered when the count has to be taken at the end of each year.

To suppress infectious disease in all its forms has been our constant aim. No preventive measure should be thought too small when one considers that some infections are often the forerunner of Tuberculosis.

Winnipeg has certainly been favoured with a less virulent form of Smallpox, Diphtheria and Scarlet Fever during the past few years. The result of this is undoubtedly reflected in our mortality rates, yet mild infections are often difficult to control due to the amount of contact they give without knowledge.

We have good cause to be thankful for our figures for 1924, as shown in our mortality rates.

We have had another busy year with Smallpox. Over thirteen hundred contacts are listed for the year as having been kept under observation for eighteen days.

Vaccinations in the public schools and at the Children's Hospital were conducted as in former years. We have now had five successive years, and believe that instituting this practice helped materially in the control of Smallpox.

A fewer number of cases of Diphtheria were reported during 1924. This was possibly due to the preventive measures instituted, 1923. This service (toxin-antitoxin) extended into 1924.

Scarlet Fever did not give us much ground for concern at any time throughout the year. Only on two occasions were we confronted with spread from a definite local cause; on both occasions the outbreaks were "nipped in the bud."

Again we are able to record a good year for Typhoid, the most of our trouble in this line coming from outside points.

The nurses of the Medical Inspection Department of public schools continue to give this Division their closest co-operation. Through their services we are frequently placed in a position of rendering better service, in that, children suffering from an illness, absent from school and traced by the nurses, who, when suspicious of any infection and finding no doctor in attendance, report to this Division for a clearance. In this way we have located many cases of infection which might have been left unrecognized with subsequent danger of spread. Over four hundred such cases had a definite diagnosis made through this Division during the year. We can only give an approximate idea of the services rendered this City by the school nurses. We find them untiring in their efforts to pursue the absentee, so that infection, at least, may not be introduced to classrooms. When one considers the many duties they are held to account for in the course of their year's work, we consider the help given us something for which we must express our gratitude. Our school population has doubled in the past twelve years and I am sure the increase in this class of work can be readily appreciated.

Office Records, Etc.

In former reports this part of the work of this Division has not received the prominence that it is due.

This office is the centre around which all school infectious troubles and many others revolve. Many thousands of clearance certificates have to be issued, all cases of infectious disease have to be reported here and finally dealt with; distribution of antitoxin, vaccines, tuberculosis supplies and disinfectants. Literature and advice is given and all City relief prescriptions passed. This is largely the work of two clerks, Miss Aldham and Mr. Moore. They continue to apply themselves assiduously. We hope some day to have more accommodation to make the work of the clerical staff more congenial.

Inspectors' reports show a total of 9,466 visits made in the course of their duties. Three thousand, six hundred and seventy-four houses quarantined; subsequent quarantine inspections were 2,718. They attended the disinfection of linen, etc., in fourteen hundred and five homes.

One hundred and sixteen requests were made for fumigation of rooms and also seven homes.

Tuberculosis Visiting Nurses

At least a part of the credit of the decline in our Tuberculosis rates must go to our Visiting Nurses. This work is pursued relentlessly from year to year.

In former reports we have placed on record some of our difficulties in the conduct of this work. These difficulties have not yet been removed and we must again harp back on them.

The reporting of Tuberculosis is still the most backward part of the work. Too many are found in the advanced stage; others want to continue at work when they should be taking the cure or at least the advice of their family physician. Many cases are undesirably housed; often children are needlessly exposed to dangers of infection. Secretiveness and desire not to have anyone know of their condition is another failing possessed by many. Promiscuous expectoration by our unknown tuberculous subject is a grave danger to the community in which he moves. As his other habits are usually of a poor order, his contact with us is really something to fear.

These are only a few of the points to which we apply ourselves from year to year and try to find a remedy. The nurse can do much better work if she knows her cases intimately. To her falls the lot of constantly trying to help the patient and often those depending on his welfare and living in the home. She has the educating of all parties to keep in mind; she must persist in this for the good of the patient and those who have to live with him, particularly. She is expected to see to the welfare of the patient and his home; to make the standard of housing conditions suitable to the case and altogether take a lively interest in every case occurring in her district, follow it up tactfully, whether in the Sanatorium or out.

This year our nurses were the guests of Dr. D. A. Stewart, Medical Superintendent, Ninette Sanatorium, for several days. I am sure they cannot help but profit from the results of such a visit.

During the conduct of a medical survey of school children in the months of May and June, our nurses were called upon to render some assistance.

They attended the chest clinics, held four days a week, two mornings and one evening, at the Winnipeg General Hospital and one morning at the Children's Hospital. The work accomplished at these clinics is summarized and attached to this report.

Five thousand, four hundred and three visits were made by nurses to homes of patients. Of the 183 cases recorded for the year, the nurses have on their lists 116.

Summaries showing distribution of cases recorded in each district:—

	Districts			
	1	2	3	4
New Cases, 1924	69	33	38	32
Deaths, 1924	30	13	20	15
Patients in Hospital	18	15	24	7
Patients in Sanatorium	48	12	8	10
Non-visiting	180	50	38	55
Visiting	110	100	102	90

The number of patients on the free milk list during the year was 65, the amount distributed being 13,867 quarts.

Medical Supplies and Disinfectants, Etc.

The Department continues to supply considerable material necessary in the conduct of this work: refills, gauze, flasks, holders, cotton, alcohol and Izal, etc. Through the kindness of some of our citizens we have been able to supply mattresses and bedding to some of our needy patients.

Through the executive of the Anti-tuberculosis Society, most of this form of relief is arranged by our nurses. Clothing is supplied to patients and other members of a patient's family. Many of the patients going to Ninette Sanatorium are completely outfitted by this Society.

Table showing distribution of cases and deaths in districts allocated to visiting nurses:—

	Cases	Deaths
District 1	69	30
District 2	33	13
District 3	38	20
District 4	32	15
Outside cases	11	9
Totals	183	87

Nationality—	
Canadian	47
English	38
Scotch	9
Irish	4
Icelandic	2
Swedish	3
Norwegian	1
Italian	2
Swiss	1
German	4
Polish	16
Ruthenian	5
Austrian	3
Russian	5
Jewish	20
Chinese	1
French	1
Not given and outside	21
Total	183

Age Periods—	Cases	Deaths	Per cent.
— 10	12	3	3.4
11 — 20	40	13	14.9
21 — 30	55	23	26.4
31 — 40	37	22	25.3
41 — 50	16	17	19.5
51 — 60	9	4	4.5
61 and over	3	5	5.7
Not given	11		
	183	87	

In concluding this report we desire to express our thanks to our Hospitals, the Margaret Scott Nursing Mission, the ladies of the Anti-tuberculosis Society, Ninette Sanatorium, our Medical Inspection Department of Schools and Social Workers.

The work of this Division has often been made lighter and more congenial through the kind assistance cheerfully given by the workers of these organizations.

Yours obediently,

WM. J. T. WATT,

Chief, Division of Communicable Diseases.

COMMUNICABLE DISEASE RATES

	1924				1923				1922				1921			
	Cases	Deaths	Rate per 100,000	Rate per 100 cases	Cases	Deaths	Rate per 100,000	Rate per 100 cases	Cases	Deaths	Rate per 100,000	Rate per 100 cases	Cases	Deaths	Rate per 100,000	Rate per 100 cases
Tuberculosis, all forms	..	120	61.5	..	..	128	63.7	..	..	127	63.7	..	..	152	77.1	..
Tuberculosis of Lungs	183	87	44.6	47.5	204	96	48.2	47.	221	105	52.7	47.5	220	100	50.8	45.4
Diphtheria	885	22	11.2	2.4	1,285	34	17.	2.6	1,395	45	22.6	3.2	1,084	48	24.3	4.4
Influenza	26	25	12.8	..	38	38	..	..	88	43	44.1	48.8	21	15	7.6	71.4
Whooping Cough	430	7	3.5	1.6	415	16	8.	3.8	476	12	6.	2.52	124	7	3.5	5.6
Scarlet Fever	583	11	5.6	1.8	676	12	6.	1.7	884	11	5.5	1.24	1,171	28	14.2	2.3
Lethargic Encephalitis	11	10	5.1	90.9	128	36	20.4	28.3	7	5	3.5	71.4	25	13	6.6	50.
Cerebro Spinal Meningitis	8	7	..	..	5	5	..	..	6	5	..	..	11	8	..	..
Puerperal Fever	16	8	..	..	3	3	..	..	3	3	..	..	4	4	..	..
Erysipelas	68	7	..	..	49	6	..	..	88	3	..	..	57	5	..	..
Measles	913	4	2.	.4	1,693	8	4.	.17	763	3	1.5	.39	157	..	..	..
Typhoid Fever	36	6	3.	16.6	26	5	2.5	19.2	40	3	1.5	7.5	49	10	5.1	20.4
Typhoid Fever, Corrected	..	1	1.02	..	..	1	..	..	..	..	..	..	..	..	..	..
Anterior Poliomyelitis	13	3	..	..	1	..	..	..	1	1	..	..	6	1	..	..
Smallpox	126	..	..	..	121	..	..	..	75	..	..	..	71	..	..	..
Chickenpox	1,120	..	..	..	979	..	..	..	893	..	..	..	813	..	..	..
Diphtheria Carriers	429	..	..	..	705	..	..	..	437	..	..	..	247	..	..	..
Mumps	10	..	..	..	55	..	..	..	98	..	..	..	1,649	..	..	..

DIPHTHERIA—1924

	January	February	March	April	May	June	July	August	September	October	November	December	Totals	1923 Totals
Diphtheria Cases	117	66	76	84	50	46	56	42	65	121	85	77	885	1,285
Diphtheria Carriers	36	38	21	44	83	26	27	18	20	53	41	23	430	705
Secondary Cases	11	7	8	4	2	1	9	5	3	13	10	15	88	120
Return Cases	...	1	...	...	...	...	...	...	...	...	...	...	1	7
Unrecognized Cases	2	4	2	1	2	1	3	1	2	7	3	6	34	61
Outside Cases	11	3	7	4	9	10	5	7	11	25	8	7	107	160
Institutional Cases	7	10	9	9	3	3	2	2	6	5	3	2	61	91
Institutional Carriers	...	1	4	29	49	1	..	10	2	2	1	..	99	31

SCARLET FEVER—1924

	January	February	March	April	May	June	July	August	September	October	November	December	Totals	1923 Totals
Scarlet Fever Cases	58	45	33	51	46	42	20	20	45	66	72	85	583	676
Secondary Cases	10	4	4	8	8	5	3	.....	8	5	17	16	88	106
Return Cases	3	1	1	1	.....	.....	1	2	.....	.....	2	.....	11	42
Missed Cases	1	2	2	1	1	1	.....	.....	3	7	3	3	24	52
Institutional Cases	2	3	1	4	.....	.....	.....	.....	3	2	1	5	21	19
Outside Cases	9	4	2	2	6	6	6	4	3	2	1	3	48	67
School Children	19	15	22	23	17	23	5	8	25	38	32	34	261	277
Sec'y to School Children	5	3	4	5	1	5	3	.....	7	3	13	10	59	62
Under School Age	19	6	5	9	12	8	5	8	10	11	12	19	124	173
Sec'y to Under School Age	5	1	.....	3	7	.....	.....	.....	1	2	3	6	28	29
Adults	3	9	1	5	4	2	2	1	6	1	9	8	51	53
Secondary to Adults	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	3

COMMUNICABLE DISEASES INSPECTORS' REPORT, 1924

	January	February	March	April	May	June	July	August	September	October	November	December	Totals 1924	Totals 1923
No. of Visits	1,030	987	864	742	994	893	576	386	584	991	810	609	9,466	13,318
Houses Quarantined	398	291	338	362	438	430	188	100	182	328	316	303	3,674	6,935
Quarantines Raised	92	62	76	90	182	228	135	45	36	46	52	55	1,099	2,544
Quarantines Inspected	356	446	301	193	206	145	167	98	121	300	238	147	2,718	1,833
Other Calls	184	188	149	97	168	90	86	143	245	317	204	104	1,975	2,006
New Cases Investigated	395	311	372	406	481	459	210	96	201	341	340	293	3,905	7,776
Rooms Fumigated	37	24	10	5	3	4	9	2	1	2	5	14	116	110
Houses Fumigated	1	1	1	1	.....	.....	.....	.....	2	.....	.....	1	7	12
Special Reports	9	9	6	7	3	2	3	2	2	6	8	12	69	137
Sanitary Defects Reported	4	1	1	6	7	2	3	.....	1	6	1	3	35	56
Linen Disinfected	206	120	104	149	96	86	73	67	85	126	146	145	1,405	1,586
Rooms Sprayed	.....	8	8	.....	8	1	5	.....	26	5	5	.....	64	15
Houses Sprayed	.....	.....	.....	.....	.....	.....	.....	.....	3	3	.....	1	7	47

TUBERCULOSIS NURSES' REPORT
1924

	January	February	March	April	May	June	July	August	September	October	November	December	Total 1924	Total 1923
Number of Visits	377	346	410	490	403	445	536	317	568	478	530	503	5,403	6,091
To Old Cases	324	292	374	472	323	396	524	309	535	453	497	495	4,994	4,691
To New Cases	8	12	5	8	17	12	6	3	10	17	14	4	116	153
On Behalf of Patients	4	12	20	8	10	10	5	5	7	8	18	4	111	152
Other Calls	41	30	11	2	53	27	1	..	16	..	1	..	182	1,095
Patients sent to King Edward Hospital	2	1	1	2	..	1	2	2	2	..	1	1	15	57
Patients sent to Ninette Sanatorium	5	.....	1	1	1	..	..	1	1	1	2	5	18	19
Suspects	1	1	3	5	5	2	1	..	4	2	3	5	32	40
Relief Given	4	2	2	4	1	4	1	4	3	4	7	6	42	

DISEASES	January		February		March		April		May		June		July		August		September		October		November		December		Totals 1924		Totals 1923	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Typhoid Fever					6	1	2				2		1		8	2	10	1	4		1		2	2	36	6	26	5
Smallpox	35		32		21		11		10		1		4								1		11		126		121	
Chickenpox	191		123		142		123		98		70		34		6		31		90		101		111		1,120		979	
Measles	37	1	34		67		107		248		290	2	97	1	9		3		1		5		15		913	4	4,693	8
Scarlet Fever	58	2	45	3	33		51	1	46	1	42		20		20	1	45	1	66	2	72		85		583	11	676	12
Whooping Cough	33		38		45		35	1	31		26		35	2	21		48		35		54	1	29	3	430	7	415	15
Mumps					2				3		1		1						2		1				10		55	
Diphtheria	117	2	66	3	76	3	84	3	50	1	46	1	56		42		65		121	2	85	5	77	2	885	22	1,285	34
Diphtheria Carriers	36		38		21		44		83		25		27		18		20		53		41		23		429		705	
Erysipelas	11	2	8	3	10		7		6		5		3		2	1	2		5		4	1	5		68	7	49	6
Pul. Tuberculosis	16	3	23	6	10	8	9	8	27	9	12	7	9	8	11	4	13	9	26	11	19	8	8	6	183	87	204	95
Ant. Poliomyelitis			1	1											2	1	6		3	1			1		13	3	1	
C. S. Meningitis	1	1					2	2			2	1	2	2			1	1							8	7	5	5
Influenza	2	2	1	1			10	10	5	4	1	1	1				2	2	1	1			3	3	26	25	38	38
L. Encephalitis			3	3	2	1	1	1	1	1	1	1	1	1							1	1	1	1	11	10	128	36
Puerperal Septicemia			1		1	1	1	1					1	1	1	1	1		2	2			2	2	10	8	3	3
Totals	537	13	413	20	436	14	487	27	608	16	524	13	292	16	140	10	247	14	409	19	385	16	373	19	4,851	197	9,383	258

CHILDREN'S HOSPITAL TUBERCULOSIS CLINIC
1924

	January	February	March	April	May	June	July	August	September	October	November	December	Total 1924	Total 1923
Cases	7	17	11	29	21	27	27	12	32	27	30	26	266	94
Old Cases	4	11	8	11	14	14	17	8	10	16	16	15	144	26
New Cases	3	6	3	18	7	13	10	4	22	11	14	11	122	68
Examinations	6	9	6	23	9	17	22	9	28	16	10	20	175	87
X-ray Examinations	2	7	3	11	6	6	12	2	13	11	5	5	83	28

WINNIPEG GENERAL HOSPITAL TUBERCULOSIS CLINIC, 1924

	Jan.		Febr.		March		April		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Totals			
																									1924		1923	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Cases	56	7	52	12	76	8	55	20	55	13	52	11	53	10	72	19	50	5	41	8	35	22	53	21	550	156	584	269
Old Cases	33	4	33	5	48	7	34	14	37	9	34	7	31	6	55	10	36	5	30	5	20	11	41	10	432	97	360	184
New Cases	23	3	19	7	28	1	21	6	18	4	18	4	22	4	17	9	14		11	3	15	11	12	11	218	63	224	85
Men	19	2	20	3	22	1	21	8	20	6	22	12	17	5	28	8	12	2	13	3	12	8	23	7	229	55	250	102
Women	23	3	22	9	38	7	20	10	24	6	26	7	22	4	28	11	25	3	18	5	12	10	20	10	278	85	215	125
Children	14	2	10		16		14	2	11	1	4	2	14	1	16		13		10		11	4	10	4	143	16	119	42
Examinations	38	6	26	10	31	4	39	13	32	8	27	8	26	8	30	15	30	3	22	6	19	13	21	12	341	106	324	157
X-ray Examinations	21	2	17	5	26	3	16	9	25	4	19	2	23	3	24	6	19		1	5	11	7	18	9	220	55	167	97

SMALLPOX—1924

	Cases	Traced	Not Traced	Outside Cases	Unvaccinated	Vaccinated	Unrecognized	Contacts	Recognized Cases	Contacts
January	35	16	13	6	30	5	9	6	15	4
February	32	20	5	7	30	2	12	5	9	5
March	21	2	10	9	17	4	5	2	8	..
April	11	6	2	3	10	1	..	2	2	4
May	10	7	2	1	8	2	2	6	6	..
June	1	..	1	..	..	1	..	..	1	..
July	4	3	..	1	4	..	1	2	1	..
August	..	..	..	..	..	..	..	..	..	..
September	..	..	..	..	..	..	..	..	..	..
October	..	..	..	..	..	..	..	..	..	..
November	1	..	..	1	..	1	..	..	1	..
December	11	8	3	..	6	5	2	9	9	..
TOTALS	126	62 (Total 126)	36	28	105 Total 126)	21	31	32	52	13

Age Incidence

	Unvaccinated	Vaccinated
Under 5 years	14	..
6 to 10 years	13	..
11 to 20 years	29	..
21 to 30 years	22	3
31 to 40 years	13	1
41 and over	14	17
Totals	105	21

SMALLPOX SUMMARY

Reported	Number of Cases
1st day of rash	12
2nd " " "	10
3rd " " "	28
4th " " "	15
5th " " "	10
6th " " "	8
7th " " "	3
8th " " "	3
9th " " "	3
10th " " "	3
11th " " " and after	18
	113
Outside cases—no record	13
Totals	126

SUMMARY SCHOOLS—TOXIN-ANTITOXIN

SCHOOLS	DOSES			Not Treated	Not Read	SCHICKS		
	3	2	1			Negative	Total	Percentage
Strathcona	288	1	1	14	2	228	534	42
King Edward	219	31	10	4	24	217	505	43
Norquay	203	31	6	2	3	201	446	45
Aberdeen	125	11	2	7	4	122	271	45
William Whyte	141	2	2	2	2	114	263	43
Pinkham	56	14	6	7	1	77	161	47
David Livingstone	93	7	..	4	1	137	242	56
Champlain	58	4	11	2	2	64	141	45
Dufferin	116	6	11	11	..	90	236	38
Machray	110	10	6	6	8	76	216	35
Ralph Brown	102	21	15	12	11	52	213	32
Isbister	51	18	5	..	1	36	111	32

REPORT OF SCHOOL MEDICAL INSPECTION SERVICE ON COMMUNICABLE DISEASES

Affecting Schools January 1st to December 31st, 1924

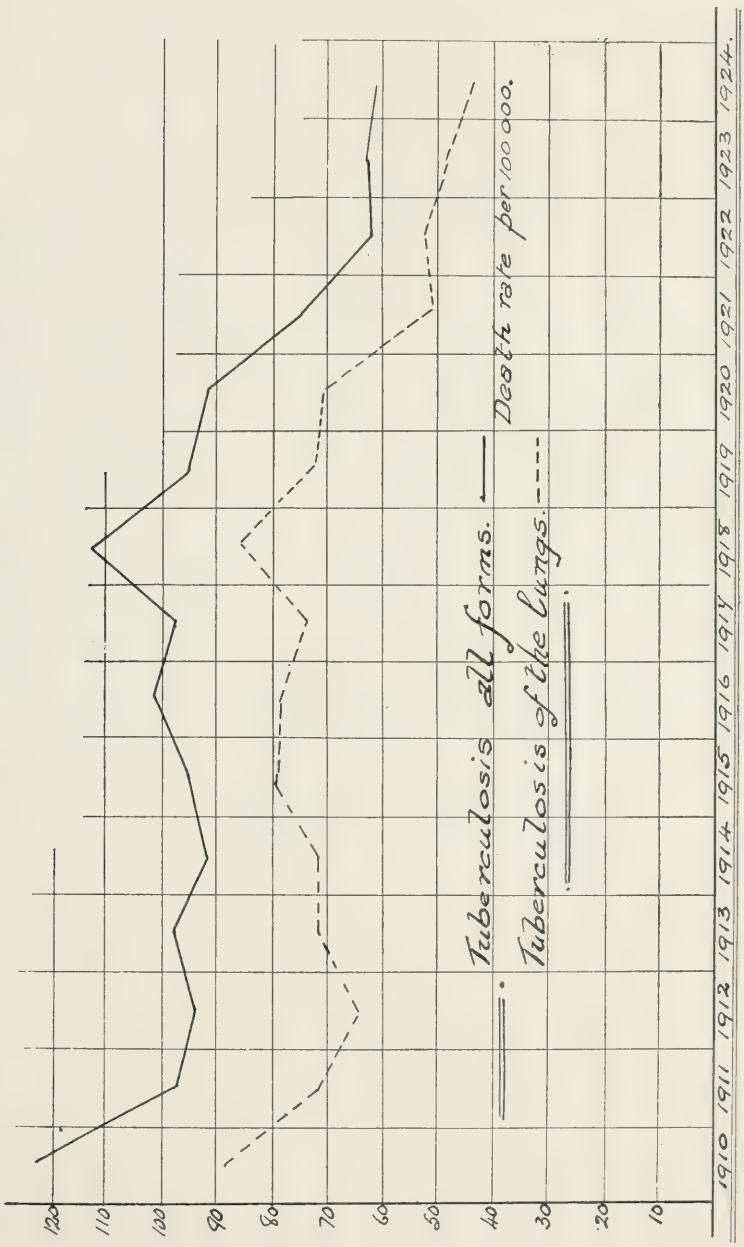
Furnished by Courtesy of Dr. Mary Crawford

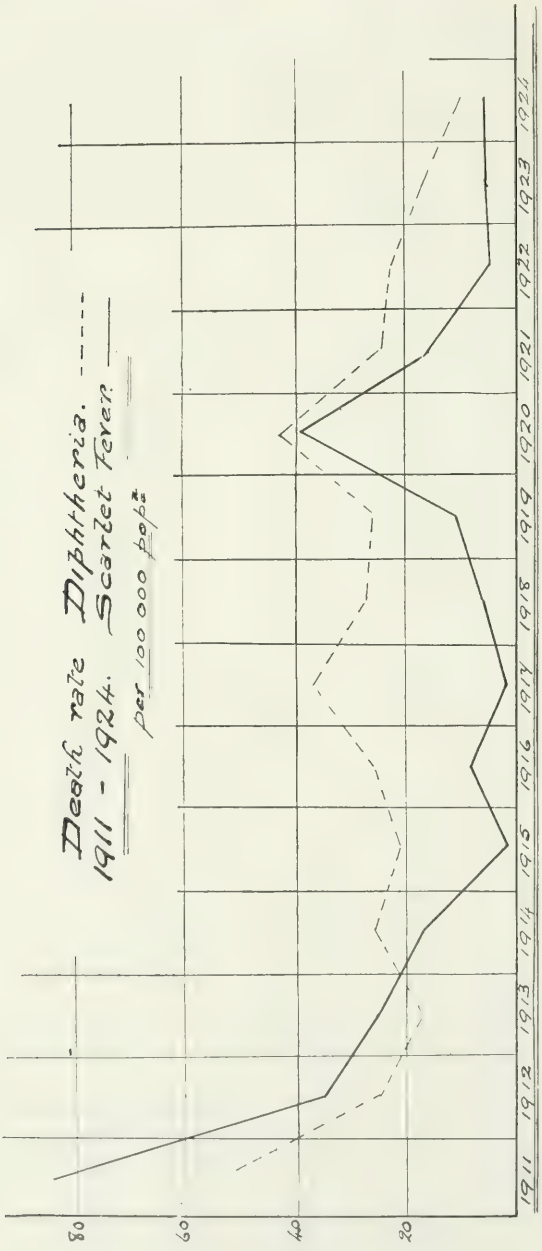
Total number of notices of communicable diseases received by Principals of Schools from:

City Health Office		2,675
School Children	1,818	
Cases in homes, not school children	857	
		2,675

Total enrolment in schools for the year, 40,000.
These cases are classified as follows:

DISEASES	School Children	Cases in Homes	Totals	Discovered by School Nurses		
				Number	Percentage of School Children	Percentage of Total Cases
Scarlet Fever	242	155	397	55	22.72	13.85
Measles	278	124	402	106	38.13	26.36
German Measles	27	2	29	29	100.	100.
Mumps	7	2	9	4	57.14	44.44
Chickenpox	601	176	777	428	71.21	55.07
Smallpox	8	41	49	3	37.50	6.12
Whooping Cough	145	54	199	114	78.60	57.28
Diphtheria, Clinical–Throat	289	251	540	56	19.37	10.37
Nose	.....	.....	.....	.....	.....	.....
Diphtheria Carriers–Throat	142	33	175	79	55.63	45.14
Nose	57	11	68	48	84.21	70.58
Ears	18	5	23	22	100.	95.65
Lethargic Encephalitis	1	.....	1	.....	.....	.....
Anterior Poliomyelitis	2	3	5	1	50.	20.
Trachoma	1	.....	1	.....	.....	.....
Totals	1,818	857	2,675	945	51.92	35.32


Tuberculosis all forms. —— Death rate per 100 000.
Tuberculosis of the Lungs. ----
120
110
100
90
80
70
60
50
40
30
20
10
1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924.


Death rate Diphtheria. -----
1911 - 1924. Scarlet Fever ——
per 100 000 pop.
80
60
40
20
1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924

Bureau of Child Hygiene

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith the report of the Bureau of Child Hygiene for the year 1924:

As far as infant welfare is concerned, the year was the record one to date, the infant mortality rate being 67.8 per 1,000 live births, or 12.0 points below the rate for 1923, which previously was our second lowest rate. This is a highly satisfactory showing and one which did not seem attainable even five years ago.

In addition to the extreme range in temperature (commonly over 120 degrees), we have to deal with an exceedingly mixed population, the foreign-born members of which require to be taught the rudiments of Canadian ideas on infant welfare, which often are in direct opposition to their instincts and traditions. On the other hand, Winnipeg has not to contend with the problem of large numbers of mothers working in factories or with extensive districts of congested tenements, both of which conditions are unfavorable to low infant mortality rates.

To appreciate the work that has been done in Winnipeg during the past twelve years along the lines of infant care, it is necessary to consider the former records.

The years 1910 to 1912, before any extensive infant welfare work was inaugurated, averaged 181 infant deaths per 1,000 live births, with a peak of 207 in 1912. In this latter year, 1,006 infants died within a year of birth; in 1924, such deaths numbered 323, giving a rate of 67.8. This reduction is, on the surface, very satisfactory, and the present infant mortality rate places Winnipeg in the front rank of cities of its size. Yet, on analyzing the ages of infants at death and the causes of death, an unsatisfactory feature of the situation is revealed. To illustrate the change which has taken place in Winnipeg's infant mortality, and to emphasize the unsatisfactory feature of the situation, we will compare our best year's record, 1924, with our worst year, 1912:

Infant Deaths per 1,000 Live Births

Under One Year of Age

Year		Rate
1912	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	207
1924	XXXXXXXXXXX	68

This diagram shows the reduction which has taken place since infant welfare work was organized in 1913. If the average mortality rate of the years 1910-11-12 (prior to the city inaugurating the Bureau of Child Hygiene), of 181, had been maintained for the years 1913 to 1924, there would have occurred over 5,200 more infant deaths.

These results are similar to those which have been achieved wherever infant welfare work has been undertaken, but, unfortunately, Winnipeg has not been in a position to attain the full success that is possible along these lines. The next two diagrams illustrate this point.

Infant Deaths per 1,000 Live Births

Over One Week of Age (a)

Year		Rate
1912	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	168
1924	XXXXXX	36

The infant deaths for 1912 and 1924 were divided into two groups, those aged (a) eight days to twelve months, and (b) one to seven days. All age

periods in 1924 of group (a) show large decreases, the total of which is 132 per 1,000 live births, as shown in the diagram above, giving a reduction of 78 per cent.

Infant Deaths per 1,000 Live Births

One to Seven Days of Age (b)

Year	Rate
1912 XXXXXXX	39
1924 XXXXX	32

The above diagram shows that there has been a decrease of only seven points in deaths of infants in the first week of life, giving a reduction of 18 per cent.

The deaths of infants within a week of birth are due to causes over which we have at present little control, but in cities where pre-natal care has been vigorously undertaken, a notable reduction has taken place in deaths from prematurity, congenital debility and other diseases peculiar to early infancy.

Effect of Pre-natal Care

The Winnipeg General Hospital has been operating a pre-natal clinic since 1921 and its success has been most marked, as the following diagram covering the years 1921 to 1924 shows:

Infant Deaths per 1,000 Live Births

One to Fourteen Days of Age, 1921 to 1924

	Rate
City XXXXXX	36
W.G.H. XX	13

The average mortality rate for infants under two weeks of age for the City during 1921 to 1924 was 36 deaths per 1,000 live births, whereas the reports of the hospital clinic show that out of 977 live births recorded from January, 1921, to August, 1924 (the hospital year was changed in 1923), there were but 13 deaths of infants within two weeks of birth, giving a rate of 13, or approximately one-third that of the average rate for the City over the corresponding years.

This is striking testimony as to what can be accomplished through pre-natal care, but the problem of the nurses is to get in touch with young mothers to advise them to consult their physician as early as possible and undergo complete physical examination and treatment whenever necessary. Nearly 30 per cent. of Winnipeg births are first children, and many mothers do not consult their physician until it is too late to remedy wrong conditions. Numerous factors, of course, enter into this question, but the fact remains that wherever intensive pre-natal work has been carried out, the early infant deaths have been greatly reduced.

Causes of Infant Deaths

Diseases of the Digestive System

Infant deaths are divided into four broad classifications, as follows: Diseases of the digestive system, of the respiratory system, of early infancy and all other diseases.

The largest decrease has taken place in deaths from diseases of the digestive system, these being reduced from the peak of 82 deaths per 1,000 live births in 1912 to 13 in 1923, and 6 in 1924. The latter figure is so low that it will be difficult to maintain, but as mothers are now well aware what to do immediately their infants become sick, and particular attention is paid by the nurses to infants in the vicinity of a case of infectious diarrhoea, in order to prevent spread of infection, it is not anticipated that diarrhoeal diseases will again head the mortality list.

In 1912 there were 399 actual infant deaths from this cause, 120 of which occurred in August alone. The spot map of this cause showed, in certain districts, clusters of deaths, each of which rapidly developed from a single focus of infection. In 1924 there were but 29 such deaths.

Diseases of the Respiratory System

These diseases, chiefly pneumonia, caused 30 infant deaths per 1,000 live births in 1912, 10 in 1923 and 11 in 1924. As has been previously reported, these deaths mainly occur in the sections favored by the foreign-born residents where the gospel of fresh air receives slight credence. Of the 53 infant deaths from these causes, 30 occurred in the first four months, the peak, 13 deaths, occurring in January, which is earlier than usual.

Diseases of Early Infancy and Malformations

This classification shows a much smaller decrease than the other causes of death, in keeping with the small reduction in deaths of infants within a week of birth. Prior to 1917 these causes were secondary to diseases of the digestive system, but in that year, because of their small annual decreases as compared with the reductions in other classifications, diseases of early infancy assumed the lead and have since then been the chief cause of death.

In 1912 the rate was 52 deaths per 1,000 live births; in 1923, 41; in 1924, 37.

Effective pre-natal care will reduce this rate to less than 15 and it is to a reduction in deaths from these causes that we must look for a further decrease in the infant mortality rate.

All Other Diseases

These have been reduced from 43 per 1,000 live births in 1912 to 16 in 1923, and 13 in 1924. The Bureau has but little control of these causes of death, except in regard to acute communicable diseases.

One of the most interesting reductions in this classification is deaths from congenital syphilis. In 1912 there were 34 such deaths; in 1924, one. In the three years 1911-12-13, there were 100 deaths of infants under one year from syphilis; in the three years 1922-23-24, there were 8.

Infant Mortality According to Sections of City

Section	Location	Rates per 1,000 Live Births 1924 Under 1 Month	1924 Under 1 Year	1923 Under 1 Year
I. West	Fort Rouge, west of Pembina	59	80	62
I. East	Fort Rouge, east of Pembina	36	68	94
II.	Red River to Spence St.	46	72	74
III. South	Assiniboine River to Ellice Ave.	41	60	79
III. North	Ellice Ave. to Notre Dame Ave.	41	56	80
IV. West	Notre Dame Ave. to C.P.R. Tracks	65	82	99
IV. Centre	Sherbrooke St. to Main St.	49	76	88
IV. East	Point Douglas, south of C.P.R.	97	125	96
V. East	Point Douglas, north of C.P.R.	79	105	138
V. South	C.P.R. Tracks to Selkirk Ave.	42	83	77
V. North	Pritchard Ave. to Burrows Ave.	29	74	67
VI. West	Burrows to Limits, west of No. 500	46	83	84
VI. East	Burrows to Limits, east of No. 499	25	44	72
VII.	Elmwood	43	74	57
Non-Residents		32	55	78
City		43	68	80

The first column shows the sectional death rates for infants under one month of age, varying from 25 per 1,000 live births in VI. E. to 97 in IV. E., with an average of 43 for the City.

The second column, mortality of infants under one year of age, shows rates varying from 44 in VI. E. to 125 in IV. E., with an average of 68. The sections IV. E. and V. E., Point Douglas, showing the high rates, are small and have always been troublesome districts.

Puerperal Deaths

I desire to draw your attention to maternal mortality in Winnipeg.

In the past 15 years 490 mothers have died from puerperal causes in the City, giving an average rate of 6.1 per 1,000 live births, with a peak of 9.1 in 1914 and a low rate of 3.5 in 1921. This average rate is high compared with British rates, and the matter is worthy of investigation.

If the deaths are arranged in five-year periods the following rates are obtained:

1910-14 ..... 6.9 puerperal deaths per 1,000 live births
1915-19 ..... 5.9 puerperal deaths per 1,000 live births
1920-24 ..... 5.4 puerperal deaths per 1,000 live births

A decrease is shown in the past 10 years, but this is due to fewer deaths from puerperal septicemia, a very gratifying feature of the situation.

Puerperal Septicemia

1910-14 ..... 3.2 deaths per 1,000 live births
1915-19 ..... 1.9 deaths per 1,000 live births
1920-24 ..... 1.8 deaths per 1,000 live births

Puerperal causes other than septicemia show a slightly higher average for the past 10 years:

Other Puerperal Causes

1910-14 ..... 3.7 deaths per 1,000 live births
1915-19 ..... 4.0 deaths per 1,000 live births
1920-24 ..... 3.6 deaths per 1,000 live births

These figures again show the necessity for greater care of expectant mothers, as many of these deaths are from preventable causes.

The nurses constantly urge young mothers to consult their physicians early, but, as before mentioned, the staff do not come in contact with a large proportion of mothers until the child is born, and to remedy this situation a publicity campaign is necessary through all nursing agencies, hospital clinics and health columns in the newspapers.

Since 1905 the puerperal deaths in England and Wales have averaged 3.8 per 1,000 live births and this in spite of the fact that about two-thirds of the births are attended by midwives. Winnipeg's peak rates, in 1914 of 9.1 and in 1920 of 8.7 puerperal deaths per 1,000 live births, indicate a serious problem as the women dying from these causes are in the prime of life and the majority of such deaths are preventable if the expectant mother takes, or is given, the necessary care.

Infant Mortality According to Nationality of Mother

The rates for each nationality show satisfactory reductions, the Scandinavian rate again having fallen into line with British and Canadian rates. The Scandinavian rate has shown wider fluctuations than that of any other nationality, dropping from 116 in 1913 to 46 in 1916, and then rising to 135 in 1922 in spite of the decreasing rates of other nationalities.

Infant Deaths per 1,000 Live Births

	1924	1923	1922	1921	1920	1919	1913
Canadian	62	74	103	68	89	103	118
British	63	76	70	79	92	96	125
Scandinavian	66	81	135	102	98	72	116
Southern and Central European	78	87	94	90	142	132	372

Babies' Clinic

The attending physicians, Dr. R. F. Rorke and Dr. F. G. Schwalm, held clinics on alternate mornings throughout the year, but because of the improved situation in infant welfare the clinic attendance again showed a decline as compared with previous years. The clinic is free, but persons

who can afford to pay a private physician are not encouraged to attend the clinic. Miss Spratt continued to handle the clinics in her usual capable manner.

There were 533 new cases recorded against 740 for 1923. By sections they are classified as follows:

District	I.	II.	III.	IV.	V.	VI.	VII.	City	Non-Res.	Tl.
Section	W. E.		S. N.	W. C. E.	E. S. N.	W. E.				
1924	15 19	31	43 32	37 55 12	39 48 47	51 68	31	528	5	533
1923	23 31	46	55 61	36 65 24	59 88 65	52 93	38	736	4	740

The attendance at the clinic totalled 5,558, against 5,860 for 1923, distributed by months, as follows:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
1924 ..	326	432	494	468	458	419	496	524	519	591	439	392	5,558
1923 ..	407	282	340	421	519	551	629	679	479	585	536	432	5,860

Milk Dispensary

The policy adopted in 1921 of supplying feedings only to sick babies requiring special feedings or in cases where the mother is unable to prepare the feedings herself, has been continued. There were 29,692 feedings prepared, against 31,503 in 1923 and 28,586 in 1922.

The daily feedings averaged 81, with a maximum of 99 in October and a minimum of 61 in November. These figures again indicate fewer babies sick of serious digestive disturbances during the summer months, as in previous years the peak usually occurred in July and August. The October maximum was due to an influenza outbreak.

Paid feedings numbered 12,238 for which $1,667.65 was received, an average of 13.6 cents per feeding. The charges vary from 10 to 25 cents a day.

Free feedings numbered 9,575, against 9,739 in 1923.

Feedings dispensed for the Children's Hospital numbered 7,879 for which the sum of $1,440.57 was paid. The arrangement whereby a nurse from the Children's Hospital receives training in the dispensary was continued.

Numerous feedings for private patients of physicians were prepared as in previous years and it is gratifying to report an increased use of the milk dispensary in this connection.

Miss Graham continued in charge of the dispensary and I am pleased to report that the high standard in the preparation of the feedings which was set when she assumed the position of dietition in November, 1919, has been maintained. A complaint is now extremely rare and the attending physicians have expressed their satisfaction at the excellence of the feedings. Mrs. Johnson, for many years assistant dispenser, resigned to be married in April, and Miss Carter, Child Welfare Nurse, has since taken charge of the dispensary on alternate Sundays and Fridays to relieve Miss Graham, thus affecting a saving of about $1,350.00 by not replacing the assistant dispenser.

Milk Dispensary Expenditure

The following table shows the reduction in expenditure, according to the Comptroller's reports, in this branch of the work since 1920:

1920	$20,914
1920 (Ice Machine)	3,155
1921	17,015
1922	14,416
1923	12,662
1924	12,672

Child Welfare Nurses

The nursing staff remained at fourteen, one of whom, Miss Spratt, has charge of the clinic.

Visits to infants at home numbered 43,794, against 42,555 in 1923. Of the 3,699 births to resident mothers, the nurses visited 3,107, or 84 per cent.

This is the highest percentage of births visited in any year and was made possible by an extra effort on the part of the nurses in District III., the largest district, to visit as large a number of babies as possible, as the mortality rates for these sections were higher than they should have been.

Infants' homes and day nurseries were regularly visited and any infraction of the regulations regarding the conduct of such places was reported to the Provincial Board of Health, under whose supervision the licenses are issued.

Nurses P. K. Brandson and K. C. Montgomery resigned to be married and were replaced by Nurses Carter and Thom. Nurse McCallum, who was on leave of absence for nearly two years, also resigned to be married, and the temporary nurse substituting for her was placed on the permanent staff. These nurses were exceedingly popular with the mothers in their districts and they left the Department with every good wish for their future happiness.

The nurses continue to receive more calls from private physicians, many of whom regularly advise families they attend to call in the nurse, or request the nurse to instruct the mother how to give certain treatments or prepare special feedings. The Bureau is glad to co-operate with physicians in every possible way that will help to reduce sickness and death amongst Winnipeg babies. Instances are constantly occurring where the mother has not realized that her child was seriously ill and has not called in her physician in the hopes that the ailment will pass away.

Expectant mothers are constantly urged to place themselves under medical supervision as early as possible, and when physicians desire the nurse to call regularly on the mother, this is done and a report on her condition given to the physician.

Sick calls were answered by the nurse on Sundays, holidays and after hours and special feedings made up by the dietitian whenever required. The staff deserves the highest praise for the faithfulness and efficiency with which they carry out their duties, ofttimes under depressing conditions.

I desire to place on record my appreciation of the work of the clinic, nursing, recording and milk dispensary staffs, not only for the harmony and kindly co-operation which exists in all branches of the Bureau's work, but also for the loyalty and devotion to duty which has always characterized the infant welfare services.

Respectfully submitted,

A. G. LAWRENCE.
Manager, Bureau of Child Hygiene.

BABIES' MILK DEPOT REPORT FOR YEAR 1924

1924	Total Attendance at Clinic	Cases Attending for First Time	NUMBER OF CASES AND FEEDINGS										
			Cases on Dispensary List at 1st of month, (including Children's Hosp.)	New Cases Dispensed for First Time	Total Cases Added during Month	Total Cases Discontinued	Children's Hospital Feedings	MILK DEPOT			Grand Total Feedings (including Children's Hospital)	Cash Collected for Children's Hospital Feedings	Cash Collected for Dispensary Feedings
								Paid Feedings	Free Feedings	Total Feedings, (excluding Children's Hospital)			
January	326	24	86	17	17	20	935	1,020	708	1,728	2,663	$ 201.09	$ 103.55
February	432	38	80	28	22	33	716	935	696	1,631	2,347	150.65	170.40
March	494	53	86	27	30	31	734	1,040	917	1,957	2,691	125.25	145.10
April	468	41	85	14	16	22	743	972	896	1,868	2,611	138.35	74.85
May	458	48	85	18	23	21	880	918	745	1,663	2,543	158.02	201.30
June	419	33	78	14	19	20	833	912	628	1,540	2,373	133.92	84.50
July	496	58	78	25	29	14	579	1,079	869	1,948	2,527	109.59	193.45
August	524	45	81	26	28	35	358	1,151	1,017	2,168	2,526	60.74	129.50
September	519	55	95	31	40	41	659	1,230	685	1,915	2,574	111.68	165.20
October	591	62	82	33	32	28	617	1,295	818	2,113	2,730	103.30	159.10
November	439	46	82	17	23	38	359	877	743	1,620	1,979	74.38	153.00
December	392	35	68	18	18	19	466	809	853	1,662	2,128	73.60	87.70
Totals	5,558	538	986	268	297	322	7,879	12,238	9,575	21,813	29,692	$1,440.57	$1,667.65

BUREAU OF CHILD HYGIENE REPORT FOR 1924

1924	No. of days on duty	No. of visits to Babies	Visits to Babies for first time	Deaths of Infants visited more than once	No. of visits to Infants' Homes	No. of calls to sick Babies	Requested calls	Cases referred to Physicians	Cases referred to Milk Depot	Cases referred to M.S.N.M.	Cases referred to Social Welfare Commission	Treatments given	Pre-natal advice given
January	312	3,596	295	10		302	236	28	10	2		248	42
February	285½	3,991	277	3		296	175	27	14		1	288	67
March	271	3,717	241	2		273	199	27	14	5	5	238	54
April	301	3,526	265	9	6	298	159	19	14	5	2	255	51
May	288½	4,121	257	8	5	292	157	24	15	3	2	245	52
June	234	3,428	238	5	5	156	138	38	6	4	1	138	52
July	262½	3,470	277		10	120	127	17	4	5		126	25
August	240	3,409	280	3	6	119	107	19	45	7	4	125	46
September	292	3,280	246	6	6	143	141	18	16	2		96	53
October	291	4,288	300	4	6	180	136	5	15	5		189	60
November	272	3,424	204	4	8	170	156	27	15	5	1	186	59
December	291½	3,544	227	6	6	212	188	36	12	4	1	156	38
Totals	3,342	43,794	3,107	60	58	2,561	1,981	265	180	47	17	2,290	599

Statistician's Report

A. J. Douglas, Esq., M.D.,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith the report on Vital Statistics for the year 1924.

Copies of the birth and death registrations have been furnished the Department by courtesy of the Registrar, Mr. C. J. Brown, as in previous years.

Respectfully submitted,
A. G. LAWRENCE,
Secretary.

Summary of Statistics

	1924	1923
Area of City—Land, 14,865 acres; water, 622 acres; total, 15,287 acres (23.9 square miles).		
Population (City Assessor's figures)	194,850	199,300
Persons per acre of land	13.11	13.41
Natural increase, excess of births over deaths	3,202	3,516
Rate per 1,000 population	16.43	17.64
Stillbirths	223	211
Rate per 1,000 live births	46.8	40.5
Births, excluding stillbirths	4,762	5,214
Rate per 1,000 population	24.44	26.16
Deaths, excluding stillbirths	1,544	1,698
Rate per 1,000 population	7.78	8.52
Deaths of infants under 1 year	323	416
Infantile mortality rate per 1,000 living births	67.8	79.8
Marriages	2,257	2,364
Rate per 1,000 population	11.58	11.86

Improvement in Public Health in Winnipeg

Vital statistics are a barometer of the public health. They indicate the degree of success a community has achieved in its efforts to control preventable diseases and prolong human life.

The great improvement which has taken place in public health in Winnipeg in the past twelve years is shown by the following comparisons of mortality rates:

Crude Death Rate

1910-11-12	averaged	13.3 per 1,000 population
1922-23-24	averaged	8.4 per 1,000 population
1910	highest	13.6 per 1,000 population
1924	lowest	7.8 per 1,000 population

The difference in the average rates represents a saving of about 950 lives per annum.

Infant Mortality

1910-11-12	averaged	181 deaths per 1,000 live births
1922-23-24	averaged	79 deaths per 1,000 live births
1912	highest	207 deaths per 1,000 live births
1924	lowest	68 deaths per 1,000 live births

The difference in the average rates represents a saving of about 530 infant lives per annum.

Measles, Scarlet Fever, Whooping Cough, Diphtheria

1910-11-12	averaged	116 deaths per 100,000 population
1922-23-24	averaged	31 deaths per 100,000 population
1911	highest	148 deaths per 100,000 population
1924	lowest	23 deaths per 100,000 population

The difference in the average rates represents a saving of about 165 lives per annum.

Typhoid Fever

1910-11-12	averaged	20 deaths per 100,000 population
1922-23-24	averaged	2 deaths per 100,000 population
1910	highest	32 deaths per 100,000 population
1922	lowest	1.5 deaths per 100,000 population
1920-21-22, excluding deaths in non-residents		.0

The difference in the average rates represents a saving of about 35 lives per annum.

Tuberculosis of Lungs

1910-11-12	averaged	75 deaths per 100,000 population
1922-23-24	averaged	48 deaths per 100,000 population
1910	highest	88 deaths per 100,000 population
1924	lowest	45 deaths per 100,000 population

The difference in the average rates represents a saving of about 50 lives per annum.

Pneumonia, All Forms

1910-11-12	averaged	151 deaths per 100,000 population
1922-23-24	averaged	82 deaths per 100,000 population
1912	highest	168 deaths per 100,000 population
1923	lowest	77 deaths per 100,000 population

The difference in the average rates represents a saving of about 135 lives per annum.

GROSS TYPHOID FEVER DEATH RATES PER 100,000 POPULATION

1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
117.5	118.4	95.0	84.6	248.3	222.6	146.5	51.0	40.6	38.4	31.6	17.1	10.8	9.7	7.9	3.5	9.5	8.2	7.6	10.3	5.7	5.1	1.5	2.5	3.1
Corrected Rate for City											7.9	5.4	4.3	3.9	2.0	7.5	6.0	6.5	7.4	.0	.0	.0	.5	1.0

CRUDE DEATH RATES PER 100,000 POPULATION

Year	Population	Tuberculosis of lungs (31)	Tuberculosis other forms (32-37)	Cancer all forms (43-49)	Meningitis (71)	Cerebral haemorrhage (74)	Diseases of the heart (87-90)	Diseases of the arteries (91)	Acute and chronic bronchitis (39)	Pneumonia all forms (100-101)	Appendicitis and typhlitis (117)	Hernia, intestinal obstruction (118)	Acute and chronic nephritis (128-129)	Puerperal deaths (143-150)	External causes (165-203)
1924	194,850	44.6	16.9	88.8	8.7	42.6	96.5	11.3	7.7	80.6	13.8	6.7	20.5	13.3	43.6
1923	199,300	48.2	16.0	82.3	6.0	28.6	87.8	13.5	5.5	77.3	9.5	9.5	28.6	13.0	52.2
1922	199,129	52.7	11.0	93.4	6.0	45.2	87.4	15.0	5.0	87.4	19.1	9.5	29.1	12.5	40.7
1921	196,947	50.8	26.4	87.3	8.1	32.0	91.9	15.7	4.6	84.8	14.2	4.6	18.3	10.7	46.7
1920	192,571	71.7	20.8	79.4	13.0	45.7	68.6	11.9	13.5	132.9	14.0	9.9	25.3	28.0	47.3
1919	183,378	72.0	24.5	73.1	10.9	30.5	72.0	9.8	18.0	105.2	17.4	13.6	33.3	15.3	57.2
1918	183,595	86.6	26.7	80.6	7.6	32.1	78.5	9.3	10.9	117.6	19.1	10.9	38.7	19.1	49.0
1917	182,848	74.4	24.1	62.4	14.2	24.6	72.2	19.7	13.7	114.8	14.2	4.9	31.2	19.7	41.0
1916	200,090	79.5	24.4	63.5	20.5	25.0	71.5	17.5	21.0	129.4	12.5	9.0	29.0	20.5	41.5
1915	201,981	79.2	16.8	48.5	17.3	20.8	59.9	15.3	21.8	91.1	13.4	11.4	28.2	12.9	52.9
1914	203,255	72.8	19.7	44.3	12.8	19.2	53.1	10.3	22.1	93.0	6.4	6.4	28.0	26.1	60.5
1913	184,730	71.4	26.0	51.4	21.6	21.6	68.2	11.9	13.0	109.9	10.3	8.7	35.7	21.1	68.2
1912	166,553	64.8	29.4	49.2	22.8	30.6	78.1	4.8	21.0	168.1	8.4	6.6	39.0	21.0	74.5
1911	151,958	71.0	27.7	46.7	18.4	19.1	65.2	4.6	13.8	138.2	9.2	9.9	36.8	13.8	62.5

1924	STILLBIRTHS				LIVE BIRTHS				DEATHS			
Month	Male	Female	1924 Totals	1923 Totals	Male	Female	1924 Totals	1923 Totals	Male	Female	1924 Totals	1923 Totals
January	10	8	18	16	212	187	399	423	95	69	164	157
February	14	6	20	23	176	188	364	454	69	68	137	170
March	7	5	12	23	213	219	432	488	75	63	138	191
April	12	9	21	19	215	202	417	462	81	69	150	150
May	16	4	20	19	198	209	407	473	76	80	156	148
June	7	6	13	18	197	186	383	443	56	51	107	124
July	16	12	28	22	213	191	404	472	46	49	95	112
August	12	14	26	14	189	200	389	438	57	45	102	132
September	10	6	16	13	182	224	406	415	69	46	115	133
October	6	7	13	17	194	197	391	401	65	60	125	126
November	11	6	17	13	185	191	376	356	59	52	111	137
December	8	11	19	14	212	182	394	389	73	71	144	118
Totals	129	94	223	211	2,386	2,376	4,762	5,214	821	723	1,544	1,698

Year	Population	Total Stillbirths	Rate per 1M Live Births	Total Live Births	Rate per 1M Population	Total Deaths	Rate per 1M Population
1924	194,850	223	46.8	4,762	24.44	1,544	7.78
1923	199,300	211	40.5	5,214	26.16	1,698	8.52
1922	199,129	252	44.8	5,629	28.27	1,801	9.04
1921	196,947	238	39.5	6,029	30.61	1,721	8.74
1920	192,571	251	40.6	6,174	32.06	2,270	11.79
1919	183,378	206	39.2	5,254	28.65	2,108	11.49
1918	183,595	245	43.6	5,621	30.61	2,706	14.74
1917	182,848	192	35.2	5,446	29.79	1,728	9.45
1916	200,090	254	42.5	5,980	29.88	2,072	10.35
1915	201,981	225	38.6	5,823	28.82	1,763	8.73
1914	203,255	257	44.4	5,789	28.48	1,955	9.62
1913	184,730	240	43.0	5,577	30.2	2,204	11.9

Nativity of Decedents, 1924

Winnipeg	479	Ukraine	4
Manitoba (rest of)	95	Belgium	2
Alberta	2	Czecho-Slovakia	1
British Columbia	1	Finland	1
New Brunswick	9	France	3
Nova Scotia	9	Germany	8
Newfoundland	6	Holland	1
Ontario	217	Iceland	20
Prince Edward Island	3	Italy	4
Quebec	30	Norway	5
Saskatchewan	15	Roumania	8
Canada	9	Russia	68
England and Wales	225	Sweden	17
Ireland	54	Switzerland	1
Scotland	100	China	5
Bermuda	1	United States	43
Austria	43	Unknown	6
Galicia	29		
Hungary	2		
Poland	18	Total	1,544

Summary

	Deaths		Per Cent. of Total	
	1924	1923	1924	1923
Canada	875	982	56.7	57.9
British Isles	379	389	24.5	22.9
Europe (excluding British Isles)	235	259	15.2	15.3
United States	43	48	2.8	2.8
Asia	5	7	.3	.4
Other Countries	1	4	.1	.2
Unknown	6	9	.4	.5
Totals	1,544	1,698	100.0	100.0

Social Status of Decedents

	Male	Female	Total	Per Cent. of Total
Single, under 16 years	286	236	522	33.8
Single, 16 years and over	109	63	172	11.2
Total: Single	395	299	694	45.0
Married	353	277	630	40.8
Widowed	65	145	210	13.6
Divorced	3	2	5	.3
Unknown	5	..	5	.3
	821	723	1,544	100.0

DEATHS BY MONTHS, SEX AND AGE PERIOD, 1924

	Under 1		1 to 2		3 to 4		5 to 9		10 to 19		20 to 29		30 to 39		40 to 49		50 to 59		60 to 69		70 to 79		80 to 89		90 to 99		100 to 109		Totals	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
January	29	14	5	2	2	..	2	1	4	3	4	4	8	7	6	2	11	12	9	8	15	9	....	6	....	1	....	..	95	69
February	17	13	7	4	1	..	5	4	3	4	2	8	5	6	4	8	7	6	7	8	11	4	....	2	....	1	....	..	69	68
March	8	12	3	2	3	1	1	3	2	..	4	2	12	9	10	7	10	11	10	9	10	6	1	1	1	..	....	..	75	63
April	21	18	3	3	1	1	3	2	3	7	6	6	5	5	8	3	4	5	12	7	11	8	4	3	....	1	....	..	81	69
May	15	21	6	5	1	3	2	3	5	3	1	4	4	3	10	7	13	9	9	14	6	5	3	2	1	1	....	..	76	80
June	16	8	2	2	2	..	4	4	..	2	4	2	7	5	6	6	6	7	8	7	1	6	....	2	....	....	....	..	56	51
July	9	6	2	3	2	..	3	1	..	2	2	6	2	6	8	5	3	6	8	10	5	2	....	1	2	1	....	..	46	49
August	9	8	2	2	1	..	3	2	3	..	6	4	2	8	5	3	8	2	10	7	6	5	2	4	....	....	..	..	57	45
September	15	6	3	..	3	..	..	1	3	3	2	3	11	5	10	9	8	9	9	3	5	3	..	4	....	....	..	..	69	46
October	16	15	1	2	2	2	1	3	3	2	4	5	9	5	13	7	1	8	4	5	10	4	1	2	..	..	..	..	65	60
November	9	10	3	2	2	1	5	3	5	2	1	3	4	6	3	4	8	5	9	7	5	3	4	5	1	1	..	..	59	52
December	11	17	3	3	1	..	1	2	2	3	3	7	7	6	11	3	8	9	16	6	5	10	5	5	..	..	....	..	73	71
Totals	175	148	40	30	21	8	30	29	33	31	39	54	76	71	94	64	87	89	111	91	90	65	20	37	5	6	..	..	821	723
Combined Totals 1924	323		70		29		59		64		93		147		158		176		202		155		57		11		....		1,544	
Totals 1923	416		88		29		53		82		117		148		136		191		192		162		71		12		1		1,698	
Percentages of Totals 1924	20.92		4.54		1.88		3.82		4.15		6.02		9.52		10.23		11.40		13.08		10.04		3.69		.71		.....		100.00	
Totals 1923	24.50		5.18		1.71		3.12		4.83		6.89		8.72		8.01		11.25		11.31		9.54		4.18		.70		.06		100.00	

Ratio of Males to 100 Females

	1924	1923	1922	1921	1920	1919	1918
Stillbirths	137	134	105	138	153	125	145
Live births	100	106	103	107	106	106	107
Deaths	113	118	115	110	115	113	117
Twin births	57	58	74	89	88	77	70
Triple births	..	..	1	..	..	..	..

Attendant at Birth (Excluding Stillbirths)

	1924		1923		1922	
Physicians	4,475	94.0%	4,740	90.9%	5,093	90.5%
Midwives and no attendant	286	6.0%	454	8.7%	536	9.5%
Unknown	1		20	.4%	...	

Illegitimacy (Including Stillbirths)

	Rates per 1,000 Live Births						
	1924	1923	1922	1921	1920	1919	1918
Illegitimate births	284	280	299	317	262	270	306
Per cent. of total births	5.7	5.4	5.3	5.0	4.1	4.9	5.2

Stillbirths According to Nationality of Mothers

	Rates per 1,000 Live Births						
	1924	1923	1922	1921	1920	1919	1918
Canadian	46	40	37	48	45	34	38
British	49	45	42	33	44	41	52
Southern and Central European	49	32	51	34	32	36	39

Comparative Infant Mortality Table

	No. Births	No. Deaths	Rate per 1,000 Births
1924	4,762	323	67.8
1923	5,214	416	79.8
1922	5,629	500	88.8
1921	6,029	471	78.1
1920	6,174	625	101.2
1919	5,254	562	106.9
1918	5,621	516	91.8
1917	5,446	545	100.1
1916	5,980	700	117.0
1915	5,823	619	106.3
1914	5,789	729	125.9
1913	5,577	947	169.8
1912	4,870	1,006	206.6
1911	4,469	762	170.5
1910	3,772	628	166.5

Infant Mortality According to Nationality of Mothers (Excluding Stillbirths)

Nationality	1924 Live Births	1924 Deaths	Rates per 1,000 Live Births 1924	1923	1922	1921	1920
Canadian	1,685	105	62	74	103	68	89
English and Welsh	916	60	65	81	65	83	99
Irish	175	15	86	40	61	75	82
Scottish	455	22	48	77	85	72	78
American (U.S.A.)	245	10	41	70	78	52	53
Scandinavian	106	7	66	81	135	102	98
Southern and Central European	1,149	90	78	87	94	90	142
All others	31	14	..	..	..	..	..

Infant Mortality—Cause of Death Number of Deaths

	1924	1923	1912
Acute communicable diseases	13	20	28
Other general diseases	27	25	80
Of nervous system and of organs of special sense	9	21	78
Of respiratory system	53	54	147
Of digestive system	29	68	399
Malformations and diseases of early infancy	178	212	251
All other diseases	14	15	23
Totals	323	416	1,006

Rates per 1,000 Births

	1924	1923	1912
Acute communicable diseases	2.7	3.8	5.8
Other general diseases	5.7	4.8	16.4
Of nervous system and of organs of special sense	1.9	4.0	16.0
Of respiratory system	11.1	10.4	30.2
Of digestive system	6.1	13.0	81.9
Malformations and diseases of early infancy	37.4	40.7	51.6
All other diseases	2.9	3.1	4.7
Totals	67.8	79.8	206.6

Per Cent. of Total

	1924	1923	1912
Acute communicable diseases	4.0	4.8	2.8
Other general diseases	8.4	6.0	7.9
Of nervous system and of organs of special sense	2.8	5.0	7.8
Of respiratory system	16.4	13.0	14.6
Of digestive system	9.0	16.4	39.6
Malformations and diseases of early infancy	55.1	51.0	25.0
All other diseases	4.3	3.8	2.3
Totals	100.0	100.0	100.0

Classification of Ages of Decedents Under One Year of Age

1924

	No. of Deaths	Rate per 1,000 Births	Per Cent. of Total	
Minutes to 1 week	153	32.1	47.4	
Over 1 to 2 weeks	20	4.2	6.2	
Over 2 to 3 weeks	17	3.6	5.2	
Over 3 weeks to 1 month	13	2.7	4.0	
Minutes to 1 month	203	42.6	62.8	
Over 1 to 2 months	21	4.4	6.5	
Over 2 to 3 months	19	4.0	5.9	
Minutes to 3 months	243	51.0		75.2
Over 3 to 6 months	36	7.6		11.2
Over 6 to 9 months	20	4.2		6.2
Over 9 and under 12 months	24	5.0		7.4
	323	67.8		100.0

For comparison with the above, the final figures for the year 1923 and 1912 are given below:

1923

	No. of Deaths	Rate per 1,000 Births	Per Cent. of Total
Minutes to 3 months	271	52.0	65.1
Over 3 to 6 months	71	13.6	17.1
Over 6 to 9 months	45	8.6	10.8
Over 9 and under 12 months	29	5.6	7.0
	416	79.8	100.0

1912

	No. of Deaths	Rate per 1,000 Births	Per Cent. of Total
Minutes to 3 months	630	129.4	62.6
Over 3 to 6 months	189	38.8	18.8
Over 6 to 9 months	125	25.7	12.4
Over 9 and under 12 months	62	12.7	6.2
	1,006	206.6	100.0

Infant Mortality Statistics

For further particulars regarding infantile mortality, see report of the Manager, Bureau of Child Hygiene, pages 87 to 94.

	1924 CAUSE OF DEATH (By Sex and Age)	SEX		AGE IN YEARS													
		Male	Female	Under 1	1 to 2	3 to 4	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	Totals
	I. Epidemic, Endemic, and Infectious Diseases																
1	Typhoid and paratyphoid fever:																
	(a) Typhoid fever	4	2						2	1	2	1					6
7	Measles	2	2	2	2												4
8	Scarlet fever	6	5		2	3	3	2	1								11
9	Whooping-cough	2	5	5	1		1										7
10	Diphtheria	10	12	1	5	4	10	2									22
11	Influenza:																
	(a) With pulmonary complications specified	3	8		1				1		1	1	4	3			11
	(b) Without pulmonary complications specified	9	5	5	3		1	2		1	1	1					14
	Totals, Nos. 1 to 11	36	39	13	14	7	15	6	4	2	4	3	4	3			75
16	Dysentery:																
	(b) Bacillary		1		1												1
21	Erysipelas	3	4	4	1										1	1	7
22	Acute anterior poliomyelitis		3		1		2										3
23	Lethargic encephalitis	5	5			2	1	1		3		2	1				10
24	Meningococcus meningitis	2		1		1											2
31	Tuberculosis of the respiratory system	53	34	1	2			9	24	25	15	5	4	2			87
32	Tuberculosis of the meninges and central nervous system	11	9	4	4	3	4	2	2	1							20
33	Tuberculosis of the intestines and peritoneum		1								1						1
34	Tuberculosis of the vertebral column	3							1	2							3
35	Tuberculosis of the joints	1								1							1
36	Tuberculosis of other organs:																
	(c) Tuberculosis of lymphatic system (mesenteric and retro-peritoneal glands excepted)	1								1							1
	(e) Tuberculosis of organs other than the above		1								1						1

37	Disseminated tuberculosis:																	
	(a) Acute	4	2	....	3	....	1	....	....	1	1	....	....	..	....	..	6
	Totals, Nos. 31 to 37	73	47	5	9	3	5	11	27	31	18	5	4	2	....	..	120
38	Syphilis	6	2	1	1	....	....	....	1	2	1	2	..	..	....	..	8
41	Purulent infection, septicemia	7	1	2	....	....	....	2	....	....	..	3	1	..	..	..	8
	Totals, Class I	132	102	26	27	13	23	20	32	38	23	15	10	5	1	1	234
	II.—General Diseases Not Included in Class I.																	
43	Cancer and other malignant tumors of the buccal cavity	2	1	..	....	....	..	..	....	..	1	1	1	..	..	..	3
44	Cancer and other malignant tumors of the stomach, liver	41	25	..	..	..	..	1	..	2	12	18	24	7	2	..	66
45	Cancer and other malignant tumors of the peritoneum, intestines, rectum	12	12	..	..	..	..	....	1	4	1	7	5	6	..	....	24
46	Cancer and other malignant tumors of the female genital organs	....	17	..	....	....	....	....	2	1	6	3	3	2	..	....	17
47	Cancer and other malignant tumors of the breast	1	18	..	..	....	..	....	1	1	5	8	4	..	..	..	19
49	Cancer and other malignant tumors of other or unspecified organs	22	22	....	1	....	....	....	....	4	6	15	12	2	3	1	44
	Totals, Nos. 43 to 49	78	95	....	1	....	....	1	4	12	31	52	49	17	5	1	173
50	Benign tumors and tumors not returned as malignant (tumors of the female genital organs excepted)	....	1	....	....	....	....	....	....	....	....	....	1	....	..	....	1
51	Acute rheumatic fever	7	5	....	....	....	3	5	1	....	2	....	1	....	..	....	12
57	Diabetes mellitus	8	6	..	1	....	....	1	1	....	2	4	3	2	....	..	14
58	Anemia, chlorosis:																	
	(a) Pernicious anemia	9	16	....	....	..	....	....	1	4	3	8	8	1	....	....	25
	(b) Other anemias and chlorosis	1	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
60	Diseases of the thyroid gland:																	
	(a) Exophthalmic goitre	....	6	....	....	....	1	....	1	....	2	2	..	....	..	..	6
	(b) Other diseases of the thyroid gland	....	1	....	....	....	....	....	....	....	....	1	..	....	..	..	1
61	Diseases of the parathyroid glands	1	....	1	....	....	....	....	....	....	....	....	..	....	..	..	1
62	Diseases of the thymus gland	1	....	....	1	....	....	....	....	....	....	....	..	....	..	..	1
63	Diseases of the adrenals (Addison's disease)	1	....	....	....	....	....	....	1	....	....	....	..	....	..	..	1
65	Leukemia and Hodgkin's disease:																	
	(a) Leukemia	5	....	....	1	1	1	....	....	....	1	....	1	..	..	..	5
	(b) Hodgkin's disease	2	....	....	....	....	....	....	1	....	1	....	....	....	....	..	2

	1924 CAUSE OF DEATH (By Sex and Age)	SEX		AGE IN YEARS														
		Male	Female	Under 1	1 to 2	3 to 4	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	Totals
66	Alcoholism (acute or chronic)	2											1	1			2
69	Other general diseases	9	5	13							1						14
	Totals, Class II	127	132	14	4	1	5	7	10	16	44	67	64	21	5	1	259
	III.- Diseases of the Nervous System and of the Organs of Special Sense																
70	Encephalitis	2	2				1		1	1	1						4
71	Meningitis:																
	*(a) Simple meningitis	6	4	2		1	3	1	2	1							10
	*(b) Nonepidemic cerebrospinal meningitis	1	6	1			3	1			2						7
73	Other diseases of the spinal cord	2	1				1					1	1				3
74	Cerebral hemorrhage, apoplexy:																
	(a) Cerebral hemorrhage	27	35		1	1		1		1	5	7	17	18	10	1	62
	(b) Cerebral embolism and thrombosis	16	5	1				2	1	1	1	5	4	5		1	21
75	Paralysis without specified cause:																
	(a) Hemiplegia	3	2									1	1	2	1		5
78	Epilepsy	2								1		1					2
80	Infantile convulsions (under 5 years of age)	1	1	2													2
81	Chorea		2					2									2
84	Other diseases of the nervous system	11	7			1	1	2	1	1	7	1	1	2	1		18
86	Diseases of the ear and of the mastoid process:																
	*(a) Diseases of the ear	3	3	2	1			1		1		1					6
	*(b) Diseases of the mastoid process		2	1								1					2
	Totals, Class III	74	70	9	2	3	9	10	5	7	16	18	24	27	12	2	144
	IV.—Diseases of the Circulatory System																
87	Pericarditis		1						1								1
88	Endocarditis and myocarditis (acute)	16	6	2		1	1	2	4	6	2	2	1	1			22

89	Angina pectoris	10	3	....	....	....	....	....	....	....	1	3	3	4	2	....	13
90	Other diseases of the heart	72	80	1	1	....	1	1	2	13	12	27	48	32	13	1	152
91	Diseases of the arteries:																
	(a) Aneurysm	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1
	(b) Arteriosclerosis	11	9	....	....	....	....	....	....	1	1	....	4	10	3	1	20
	(c) Other diseases of the arteries	1	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
92	Embolism and thrombosis (not cerebral)	15	3	1	....	....	....	....	1	1	5	1	4	5	....	....	18
93	Diseases of veins (varices, hemorrhoids, phlebitis, etc.)	1	2	....	....	....	....	....	....	1	1	....	1	....	....	....	3
94	Diseases of the lymphatic system (lymphangitis, etc.)	1	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1
	Totals, Class IV	128	104	4	1	1	3	3	8	22	23	33	62	52	18	2	232
	V.—Diseases of the Respiratory System																
97	Diseases of the nasal fossae and their annexa:																
	*(b) Others under this title	2	2	....	....	..	....	....	1	2	1	....	....	....	....	....	4
98	Diseases of the larynx	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
99	Bronchitis:																
	(a) Acute	2	4	1	....	1	....	....	1	1	....	....	....	1	....	1	6
	(b) Chronic	2	4	....	....	....	....	....	....	....	....	....	1	3	1	1	6
	(c) Unspecified (under 5 years of age)	1	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1
	(d) Unspecified (5 years and over)	1	1	....	....	....	....	1	....	....	....	....	....	1	....	..	2
100	Bronchopneumonia:																
	*(a) Bronchopneumonia	59	33	42	11	6	1	2	....	1	4	6	4	8	6	1	92
101	Pneumonia:																
	(a) Lobar	31	29	7	7	....	3	2	4	8	7	8	3	8	3	....	60
	(b) Unspecified	1	4	2	....	1	2	....	....	....	....	....	....	....	....	....	5
102	Pleurisy	3	1	....	....	....	....	....	1	1	....	....	1	1	....	....	4
103	Congestion and hemorrhagic infarct of the lung	1	1	....	....	....	....	....	....	....	....	....	....	1	1	....	2
105	Asthma	2	....	....	....	....	....	....	....	....	....	2	....	....	....	....	2
107	Other diseases of the respiratory system (T.B. excepted):																
	(a) Chronic interstitial pneumonia including occupational diseases of the respiratory system	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	1
	(c) Others under this title	2	....	....	....	....	....	....	....	....	1	....	....	1	....	....	2
	Totals, Class V	109	79	53	19	8	6	5	7	13	13	17	9	24	11	3	188

	1924 CAUSE OF DEATH (By Sex and Age)	SEX		AGE IN YEARS													
		Male	Female	Under 1	1 to 2	3 to 4	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	Totals
	VI.—Diseases of the Digestive System																
109	Diseases of the pharynx and tonsils (including adenoid vegetations):																
	*(b) Others under this title	3	..	..	1	..	..	2	..	..	..	..	..	..	..	..	3
110	Diseases of the esophagus	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
111	Ulcer of the stomach and duodenum:																
	(a) Ulcer of the stomach	5	..	..	..	..	..	..	1	2	2	..	..	..	..	..	5
	(b) Ulcer of the duodenum	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
112	Other diseases of the stomach (cancer excepted)	5	1	2	..	..	..	..	..	1	..	2	..	1	..	..	6
113	Diarrhœa and enteritis (under 2 years of age)	19	5	21	3	..	..	..	..	..	..	..	..	..	..	..	24
114	Diarrhœa and enteritis (2 years and over)	5	6	1	1	..	..	1	1	2	2	1	..	1	1	..	11
117	Appendicitis and typhlitis	12	15	..	..	..	2	5	3	11	2	1	3	..	..	..	27
118	Hernia, intestinal obstruction:																
	(a) Hernia	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
	(b) Intestinal obstruction	8	4	3	1	1	1	..	1	2	3	..	..	..	..	..	12
119	Other diseases of the intestines	1	1	1	..	..	..	1	..	..	..	..	..	..	..	..	2
122	Cirrhosis of the liver:																
	(b) Not specified as alcoholic	2	3	..	1	..	..	..	..	..	..	..	2	2	..	..	5
123	Biliary calculi	..	3	..	..	..	..	..	..	..	..	3	..	..	..	..	3
124	Other diseases of the liver	2	4	..	..	..	..	..	..	..	1	1	4	..	..	..	6
125	Diseases of the pancreas	1	3	..	..	1	1	..	..	1	1	..	..	..	..	..	4
126	Peritonitis without specified cause	2	5	1	..	..	3	..	..	1	1	..	1	..	..	..	7
	Totals, Class VI	68	50	29	7	2	7	9	6	21	14	8	10	4	1	..	118
	VII.—Nonvenereal Diseases of the Genitourinary System and Annexa																
128	Acute nephritis (inc. unspecified under 10 years of age)	3	1	..	..	..	..	..	..	1	2	..	..	1	..	..	4
129	Chronic nephritis (inc. unspecified 10 years and over)	21	15	..	..	1	..	1	3	4	2	4	8	10	3	..	36

131	Other diseases of the kidneys and annexa	1	3	1								1	1	1				4
134	Diseases of the urethra, urinary abscess, etc.:																	
	(a) Stricture of the urethra	2								1				1				2
	(b) Others under this title		1						1									1
135	Diseases of the prostate	2												2				2
137	Cysts and other benign tumors of the ovary		1									1						1
138	Salpingitis and pelvic abscess (female)		2						1	1								2
139	Benign tumors of the uterus		2							1			1					2
141	Other diseases of the female genital organs		2								1	1						2
	Totals, Class VII	29	27	1		1		1	5	8	5	7	10	15	3			56
	VIII.—The Puerperal State																	
143	Accidents of pregnancy:																	
	(a) Abortion		4						3		1							4
	(c) Others under this title		1							1								1
144	Puerperal hemorrhage		2						1	1								2
145	Other accidents of labor:																	
	*(c) Others under this title		2						1	1								2
146	Puerperal septicemia		11						5	5	1							11
147	Puerperal phlegmasia, alba dolens, embolus, sudden death		1								1							1
148	Puerperal albuminuria and convulsions		4						2	2								4
149	Following child-birth (not otherwise defined)		1						1									1
	Totals, Class VIII		26						13	10	3							26
	IX.—Diseases of the Skin and of the Cellular Tissue																	
151	Gangrene	2	2										1	2	1			4
152	Furuncle		1	1														1
153	Acute abscess	1	1	2														2
154	Other diseases of the skin and annexa	3	1	3									1					4
	Totals, Class IX	6	5	6									2	2	1			11

	1924 CAUSE OF DEATH (By Sex and Age)	SEX		AGE IN YEARS													
		Male	Female	Under 1	1 to 2	3 to 4	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	Totals
	XI.—Malformations																
159	Congenital malformations (stillbirths not included):																
	*(a) Congenital hydrocephalus	1	5	5	1	...	...	...	...	...	...	...	...	...	...	...	6
	*(b) Congenital malformations of the heart	8	3	9	1	...	...	1	...	...	...	...	...	...	...	...	11
	*(c) Others under this title	6	4	9	1	...	...	...	...	...	...	...	...	...	...	...	10
	Totals, Class XI	15	12	23	3	...	...	1	...	...	...	...	...	...	...	...	27
	XII.—Early Infancy																
160	Congenital debility, icterus, and sclerema	8	12	20	...	...	...	...	...	...	...	...	...	...	...	...	20
161	Premature birth; Injury at birth:																
	*(a) Premature birth (not stillborn)	39	40	79	...	...	...	...	...	...	...	...	...	...	...	...	79
	*(b) Injury at birth (not stillborn)	13	16	29	...	...	...	...	...	...	...	...	...	...	...	...	29
162	Other diseases peculiar to early infancy	16	8	24	...	...	...	...	...	...	...	...	...	...	...	...	24
163	Lack of care	1	2	3	...	...	...	...	...	...	...	...	...	...	...	...	3
	Totals, Class XII	77	78	155	...	...	...	...	...	...	...	...	...	...	...	...	155
	XIII.—Old Age																
164	Senility	2	5	...	...	...	...	...	...	...	...	...	...	4	2	1	7
	Totals, Class XIII	2	5	...	...	...	...	...	...	...	...	...	...	4	2	1	7
	XIV.—External Causes																
165	Suicide by solid or liquid poisons (corrosive substances excepted)	1	1	...	...	...	...	...	1	...	...	...	1	...	...	...	2

166	Suicide by corrosive substances	3	2	....	....	....	....	....	1	1	1	....	2	....	....	....	5
167	Suicide by poisonous gas	....	1	....	....	....	....	....	....	....	....	....	1	....	....	....	1
168	Suicide by hanging or strangulation	6	....	....	....	....	....	....	....	2	1	2	1	....	....	....	6
169	Suicide by drowning	1	1	....	....	....	....	....	....	1	1	....	....	....	....	....	2
170	Suicide by firearms	3	2	....	....	....	....	....	1	....	1	3	....	....	....	....	5
171	Suicide by cutting or piercing instruments	....	2	....	....	....	....	....	....	....	1	1	....	....	....	....	2
172	Suicide by jumping from high places	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1
177	Other acute accidental poisonings (gas excepted)	3	3	....	1	....	1	....	....	1	2	....	1	....	....	....	6
178	Conflagration	2	....	....	....	....	1	....	....	1	....	....	....	....	....	....	2
179	Accidental burns (conflagration excepted)	3	3	....	3	....	1	1	....	....	....	....	....	....	1	....	6
180	Accidental mechanical suffocation	....	2	1	....	....	1	....	....	....	....	....	....	....	....	....	2
181	Accidental absorption of irrespirable, irritating, or poisonous gas	2	1	....	....	....	....	1	....	1	....	1	....	....	....	....	3
182	Accidental drowning	2	....	....	....	....	1	....	....	....	1	....	....	....	....	....	2
183	Accidental traumatism by firearms (wounds of war excepted)	2	....	....	....	....	....	1	1	....	....	....	....	....	....	....	2
185	Accidental traumatism by fall	7	3	....	1	....	....	1	....	2	1	1	1	1	2	....	10
187	Accidental traumatism by machines	1	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):																
	*(a) Railroad accidents	4	....	....	....	....	....	1	....	....	2	....	1	....	....	....	4
	*(b) Street-car accidents	3	....	....	....	....	....	....	1	1	....	1	....	....	....	....	3
	*(c) Automobile accidents	5	1	....	....	....	1	2	....	1	1	....	....	....	....	1	6
	*(f) Injuries by other vehicles	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1
	*(g) Landslides, other crushing	1	....	....	....	....	....	....	....	1	....	....	....	....	....	....	1
193	Excessive cold	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1
196	Other accidental electric shocks	1	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
197	Homicide by firearms	1	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
199	Homicide by other means	1	3	....	....	....	1	1	....	2	1	....	....	....	....	....	4
202	Other external violence	2	3	....	2	....	....	....	1	....	1	1	....	....	....	....	5
	Totals, Class XIV	57	28	1	7	....	6	8	7	12	17	11	11	1	3	1	85
	XV.—Ill-defined Diseases																
205	Cause of death not specified or ill-defined:																
	*(a) Ill-defined	1	1	2	....	....	....	....	....	....	....	....	....	....	....	....	2
	Totals, Class XV	1	1	2	....	....	....	....	....	....	....	....	....	....	....	....	2
	Grand Totals	821	723	323	70	29	59	64	93	147	158	176	202	155	57	11	1,544

	1924 CAUSE OF DEATH (By Month)	January	February	March	April	May	June	July	August	September	October	November	December	Totals
	I. Epidemic, Endemic, and Infectious Diseases													
1	Typhoid and paratyphoid fever:													
	(a) Typhoid fever	....	....	1	....	....	....	....	2	1	....	....	2	6
7	Measles	1	....	....	....	....	2	1	....	....	....	....	....	4
8	Scarlet fever	2	3	....	1	1	....	....	1	1	2	....	....	11
9	Whooping-cough	....	....	....	1	....	....	2	....	....	....	1	3	7
10	Diphtheria	2	3	3	3	1	1	....	....	....	2	5	2	22
11	Influenza:													
	(a) With pulmonary complications specified	....	....	....	7	2	....	....	....	....	1	....	1	11
	(b) Without pulmonary complications specified	2	1	....	3	2	1	1	....	2	....	....	2	14
	Totals, Nos. 1 to 11	7	7	4	15	6	4	4	3	4	5	6	10	75
16	Dysentery:													
	(b) Bacillary	....	....	....	....	....	....	....	....	....	....	1	....	1
21	Erysipelas	2	3	....	....	....	....	....	1	....	....	1	....	7
22	Acute anterior poliomyelitis	....	1	....	....	....	....	....	1	....	1	....	....	3
23	Lethargic encephalitis	....	3	1	1	1	1	1	....	....	....	1	1	10
24	Meningococcus meningitis	....	....	....	....	1	....	....	....	1	....	....	....	2
31	Tuberculosis of the respiratory system	3	6	8	8	9	7	8	4	9	11	8	6	87
32	Tuberculosis of the meninges and central nervous system	2	5	2	2	2	2	....	3	1	....	1	....	20
33	Tuberculosis of the intestines and peritoneum	....	....	....	....	....	....	....	....	....	1	....	....	1
34	Tuberculosis of the vertebral column	....	....	....	1	....	....	....	1	....	1	....	....	3
35	Tuberculosis of the joints	....	....	1	....	....	....	....	....	....	....	....	....	1
36	Tuberculosis of other organs:													
	(d) Tuberculosis of the genitourinary system	....	....	....	1	....	....	....	....	....	....	....	....	1
	(e) Tuberculosis of organs other than the above	....	....	....	....	....	....	....	1	....	....	....	....	1
37	Disseminated tuberculosis:													
	(a) Acute	1	1	1	....	....	....	1	1	....	....	....	1	6
	Totals, Nos. 31 to 37	6	12	12	12	11	9	9	10	10	13	9	7	120

38	Syphilis	2	....	3	....	....	....	1	1	1	....	....	....	8
41	Purulent infection, septicemia	....	....	2	3	....	....	....	1	....	....	1	1	8
	Totals, Class I	17	26	22	31	19	14	15	17	16	19	19	19	234
	II.—General Diseases Not Included in Class I													
43	Cancer and other malignant tumors of the buccal cavity	1	....	....	....	....	....	....	....	....	1	1	....	3
44	Cancer and other malignant tumors of the stomach, liver	4	5	5	8	6	4	5	9	4	4	5	7	66
45	Cancer and other malignant tumors of the peritoneum, intestines, rectum	2	3	5	....	3	1	2	3	1	2	2	....	24
46	Cancer and other malignant tumors of the female genital organs	1	....	1	2	....	4	3	....	3	2	1	....	17
47	Cancer and other malignant tumors of the breast	3	1	3	2	1	3	2	....	1	1	1	1	19
49	Cancer and other malignant tumors of other or unspecified organs	8	4	2	5	5	7	2	....	3	1	5	2	44
	Totals, Nos. 43 to 49	19	13	16	17	15	19	14	12	12	11	15	10	173
50	Benign tumors and tumors not returned as malignant (tumors of the female genital organs excepted)	....	....	1	....	....	....	....	....	....	....	....	....	1
51	Acute rheumatic fever	....	1	1	1	1	3	....	1	....	2	2	....	12
57	Diabetes mellitus	1	2	....	2	1	....	1	1	2	1	1	2	14
58	Anemia, chlorosis:													
	(a) Pernicious anemia	1	4	5	3	1	1	1	2	4	1	....	2	25
	(b) Other anemias and chlorosis	....	....	....	....	....	....	....	....	....	1	....	....	1
60	Diseases of the thyroid gland:													
	(a) Exophthalmic goitre	1	1	1	....	....	....	1	....	1	1	....	....	6
	(b) Other diseases of the thyroid gland	....	....	....	....	....	....	....	....	....	....	....	1	1
61	Diseases of the parathyroid glands	1	....	....	....	....	....	....	....	....	....	....	....	1
62	Diseases of the thymus gland	....	....	....	....	1	....	....	....	....	....	....	....	1
63	Diseases of the adrenals (Addison's disease)	....	1	....	....	....	....	....	....	....	....	....	....	1
65	Leukemia and Hodgkin's disease:													
	(a) Leukemia	1	....	....	....	2	....	1	....	1	....	....	....	5
	(b) Hodgkin's disease	....	....	....	....	1	....	....	1	....	....	....	....	2

1924 CAUSE OF DEATH (By Month)	January	February	March	April	May	June	July	August	September	October	November	December	Totals
66 Alcoholism (acute or chronic)	....	....	1	....	....	....	....	1	....	....	....	....	2
69 Other general diseases	....	1	1	2	4	1	1	1	....	1	1	1	14
Totals, Class II	24	23	26	25	26	24	19	19	20	18	19	16	259
III.—Diseases of the Nervous System and of the Organs of Special Sense													
70 Encephalitis	3	....	....	....	....	1	....	....	....	....	....	....	4
71 Meningitis:													
*(a) Simple meningitis	1	1	1	1	1	....	1	....	....	1	2	1	10
*(b) Nonepidemic cerebrospinal meningitis	1	....	....	2	....	1	2	....	1	....	....	....	7
73 Other diseases of the spinal cord	....	2	1	....	....	....	....	....	....	....	....	....	3
74 Cerebral hemorrhage, apoplexy:													
(a) Cerebral hemorrhage	10	8	4	3	4	4	6	3	2	5	6	7	62
(b) Cerebral embolism and thrombosis	....	4	3	6	4	2	....	1	....	....	....	1	21
75 Paralysis without specified cause:													
(a) Hemiplegia	....	....	1	....	....	....	....	....	2	....	1	1	5
78 Epilepsy	1	....	....	....	....	....	1	....	....	....	....	....	2
80 Infantile convulsions (under 5 years of age)	....	....	....	....	1	1	....	....	....	....	....	....	2
81 Chorea	1	....	....	....	....	....	1	....	....	....	....	....	2
84 Other diseases of the nervous system	2	1	3	1	1	1	....	1	4	2	....	2	18
86 Diseases of the ear and of the mastoid process:													
*(a) Diseases of the ear	1	....	2	....	1	1	....	....	....	1	....	....	6
*(b) Diseases of the mastoid process	....	....	....	....	1	....	....	1	....	....	....	....	2
Totals, Class III	20	16	15	13	13	11	11	6	9	9	9	12	144
IV.—Diseases of the Circulatory System													
87 Pericarditis	....	....	....	....	....	....	....	....	1	....	....	....	1
88 Endocarditis and myocarditis (acute)	2	....	1	....	3	2	3	2	4	1	1	3	22

89	Angina pectoris	2	....	....	....	1	....	1	....	2	....	2	5	13
90	Other diseases of the heart	15	8	20	10	20	4	13	13	10	12	11	16	152
91	Diseases of the arteries:													
	(a) Aneurysm	....	....	....	....	....	....	....	....	1	....	....	....	1
	(b) Arteriosclerosis	1	1	3	5	5	3	....	1	....	....	1	....	20
	(c) Other diseases of the arteries	....	....	....	....	....	....	....	....	1	....	....	....	1
92	Embolism and thrombosis (not cerebral)	5	....	....	....	1	....	....	4	2	....	4	2	18
93	Diseases of veins (varices, hemorrhoids, phlebitis, etc.)	1	1	....	....	....	....	....	....	1	....	....	....	3
94	Diseases of the lymphatic system (lymphangitis, etc.)	....	....	....	....	....	....	....	....	....	....	....	1	1
	Totals, Class IV	26	10	24	15	30	9	17	20	22	13	19	27	232
	V.—Diseases of the Respiratory System													
97	Diseases of the nasal fossae and their annexa:													
	*(b) Others under this title	1	1	....	1	....	....	....	....	....	1	....	....	4
98	Diseases of the larynx	....	....	1	....	....	....	....	....	....	....	....	....	1
99	Bronchitis:													
	(a) Acute	1	1	1	1	....	....	....	....	....	1	....	1	6
	(b) Chronic	2	....	....	....	....	1	1	1	....	....	....	1	6
	(c) Unspecified (under 5 years of age)	....	....	....	....	....	1	....	....	....	....	....	....	1
	(d) Unspecified (5 years and over)	....	....	....	....	....	....	....	....	....	....	1	1	2
100	Bronchopneumonia:													
	*(a) Bronchopneumonia	18	6	6	13	13	8	3	4	5	4	6	6	92
101	Pneumonia:													
	(a) Lobar	3	8	4	5	7	8	1	3	2	8	5	6	60
	(b) Unspecified	4	....	....	....	....	....	....	....	....	1	....	....	5
102	Pleurisy	1	....	1	....	....	....	....	....	1	....	....	1	4
103	Congestion and hemorrhagic infarct of the lung	....	....	....	1	....	....	....	1	....	....	....	....	2
105	Asthma	1	....	....	....	....	....	....	1	....	....	....	....	2
107	Other diseases of the respiratory system (T.B. excepted):													
	(a) Chronic interstitial pneumonia including occupational diseases of the respiratory system	....	....	....	....	....	....	....	....	1	....	....	....	1
	(c) Others under this title	....	....	....	....	1	....	....	....	1	....	....	....	2
	Totals, Class V	31	16	13	21	21	18	5	10	10	15	12	16	188

1924 CAUSE OF DEATH (By Month)	January	February	March	April	May	June	July	August	September	October	November	December	Totals
VI.—Diseases of the Digestive System													
109 Diseases of the pharynx and tonsils (including adenoid vegetations):													
*(b) Others under this title	..	1	1	....	....	....	....	....	....	....	1	....	3
110 Diseases of the esophagus	..	..	..	....	....	....	....	....	....	1	....	..	1
111 Ulcer of the stomach and duodenum:													
(a) Ulcer of the stomach	....	1	2	..	..	..	..	....	....	2	....	..	5
(b) Ulcer of the duodenum	..	..	....	....	....	....	....	....	....	..	....	1	1
112 Other diseases of the stomach (cancer excepted)	1	1	....	..	..	....	..	1	1	..	..	2	6
113 Diarrhœa and enteritis (under 2 years of age)	2	4	..	2	5	1	1	1	4	1	1	2	24
114 Diarrhœa and enteritis (2 years and over)	....	..	3	1	..	2	2	....	..	1	..	2	11
117 Appendicitis and typhilitis	....	3	3	4	1	3	4	1	....	1	2	5	27
118 Hernia, intestinal obstruction:													
(a) Hernia	..	..	..	..	..	..	..	....	..	1	..	..	1
(b) Intestinal obstruction	1	1	1	1	2	1	....	....	2	1	1	1	12
119 Other diseases of the intestines	1	....	1	....	....	....	....	....	....	....	....	..	2
122 Cirrhosis of the liver:													
(b) Not specified as alcoholic	....	1	....	1	....	....	....	1	1	....	1	....	5
123 Biliary calculi	....	1	....	....	....	..	..	..	1	1	....	..	3
124 Other diseases of the liver	....	....	....	....	....	2	....	1	2	....	....	1	6
125 Diseases of the pancreas	....	2	1	....	....	....	....	....	....	1	....	....	4
126 Peritonitis without specified cause	....	1	....	....	2	....	....	....	....	1	2	1	7
Totals, Class VI	5	16	12	9	10	9	7	5	11	11	8	15	118
VII. Nonvenereal Diseases of the Genitourinary System and Annexa													
128 Acute nephritis (inc. unspecified under 10 years of age)	....	..	..	2	....	....	..	..	1	1	....	..	4
129 Chronic nephritis (inc. unspecified 10 years and over)	5	4	4	4	1	5	1	1	2	2	6	1	36
131 Other diseases of the kidneys and annexa	....	1	2	....	....	....	....	....	....	....	1	....	4

134	Diseases of the urethra, urinary abscess, etc.:													
	(a) Stricture of the urethra	1	....	....	....	....	....	....	1	....	....	....	....	2
	(b) Others under this title	....	....	....	....	1	....	....	....	....	....	....	....	1
135	Diseases of the prostate	....	....	....	1	....	....	....	....	....	....	....	1	2
137	Cysts and other benign tumors of the ovary	....	....	....	....	1	....	....	....	....	....	....	....	1
138	Salpingitis and pelvic abscess (female)	....	....	....	1	....	....	....	1	....	....	....	....	2
139	Benign tumors of the uterus	....	....	....	....	1	....	....	....	....	....	1	....	2
141	Other diseases of the female genital organs	1	....	....	....	....	....	....	....	1	....	....	....	2
	Totals, Class VII	7	5	6	8	4	5	1	3	4	3	8	2	56
	VIII.—The Puerperal State													
143	Accidents of pregnancy:													
	(a) Abortion	....	....	1	....	1	....	....	1	....	1	....	....	4
	(c) Others under this title	....	....	....	....	....	1	....	....	....	....	....	....	1
144	Puerperal hemorrhage	....	2	....	....	....	....	....	....	....	....	....	....	2
145	Other accidents of labor:													
	*(c) Others under this title	....	....	....	....	....	....	1	....	....	....	1	....	2
146	Puerperal septicemia	1	1	1	1	....	....	1	1	....	2	....	3	11
147	Puerperal phlegmasia, alba dolens, embolus, sudden death	....	....	....	....	....	....	....	....	1	....	....	....	1
148	Puerperal albuminuria and convulsions	1	....	....	....	1	....	....	....	....	2	....	....	4
149	Following child-birth (not otherwise defined)	....	....	....	....	....	....	....	....	....	....	....	1	1
	Totals, Class VIII	2	3	2	1	2	1	2	2	1	5	1	4	26
	IX.—Diseases of the Skin and of the Cellular Tissue													
151	Gangrene	1	....	....	....	2	....	....	....	1	....	....	....	4
152	Furuncle	....	....	....	....	1	....	....	....	....	....	....	....	1
153	Acute abscess	1	....	....	1	....	....	....	....	....	....	....	....	2
154	Other diseases of the skin and annexa	....	....	1	....	....	....	1	....	....	....	2	....	4
	Totals, Class IX	2	....	1	1	3	....	1	....	1	....	2	....	11

	1924 CAUSE OF DEATH (By Month)	January	February	March	April	May	June	July	August	September	October	November	December	Totals
	XI.—Malformations													
159	Congenital malformations (stillbirths not included):													
	*(a) Congenital hydrocephalus	....	....	....	1	3	....	....	....	1	1	....	....	6
	*(b) Congenital malformations of the heart	2	....	1	....	....	....	....	2	2	1	1	2	11
	*(c) Others under this title	1	3	1	....	....	2	....	....	2	....	1	....	10
	Totals, Class XI	3	3	2	1	3	2	....	2	5	2	2	2	27
	XII.—Early Infancy													
160	Congenital debility, icterus, and sclerema	3	....	....	....	4	2	2	1	1	5	....	2	20
161	Premature birth; Injury at birth:													
	*(a) Premature birth (not stillborn)	9	6	5	13	6	4	4	3	2	10	5	12	79
	*(b) Injury at birth (not stillborn)	4	2	1	3	4	....	1	2	2	8	....	2	29
162	Other diseases peculiar to early infancy	1	4	2	3	1	2	2	2	2	1	3	1	24
163	Lack of care	....	1	1	....	1	....	....	....	....	....	....	....	3
	Totals, Class XII	17	13	9	19	16	8	9	8	7	24	8	17	155
	XIII.—Old Age													
164	Senility	1	1	....	1	....	....	1	1	....	1	....	1	7
	Totals, Class XIII	1	1	....	1	....	....	1	1	....	1	....	1	7
	XIV.—External Causes													
165	Suicide by solid or liquid poisons (corrosive substances ex.)	....	....	....	....	....	....	....	....	1	....	....	1	2
166	Suicide by corrosive substances	1	....	....	....	....	1	....	....	1	....	....	2	5
167	Suicide by poisonous gas	....	....	....	....	1	....	....	....	....	....	....	....	1
168	Suicide by hanging or strangulation	2	....	....	....	1	....	....	....	....	....	1	2	6
169	Suicide by drowning	....	....	....	....	1	1	....	....	....	....	....	....	2

170	Suicide by firearms	....	....	1	....	....	....	....	1	1	1	....	1	5
171	Suicide by cutting or piercing instruments	....	....	1	....	....	....	....	....	....	....	....	1	2
172	Suicide by jumping from high places	....	....	....	....	....	....	....	1	....	....	....	....	1
177	Other acute accidental poisonings (gas excepted)	1	1	1	....	....	....	....	....	1	1	1	....	6
178	Conflagration	....	1	....	....	1	....	....	....	....	....	....	....	2
179	Accidental burns (conflagration excepted)	1	1	....	1	....	1	....	1	....	....	....	1	6
180	Accidental mechanical suffocation	....	....	....	....	1	....	....	....	....	....	....	1	2
181	Accidental absorption of irrespirable, irritating, or poisonous gas	....	1	1	....	....	....	....	1	....	....	....	....	3
182	Accidental drowning	....	....	....	....	....	....	1	1	....	....	....	....	2
183	Accidental traumatism by firearms (wounds of war ex.)	1	....	....	....	....	....	1	....	....	....	....	....	2
185	Accidental traumatism by fall	1	....	....	1	....	....	1	....	3	1	1	2	10
187	Accidental traumatism by machines	....	....	....	....	....	....	1	....	....	....	....	....	1
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													
	*(a) Railroad accidents	....	....	....	....	....	1	....	2	....	1	....	....	4
	*(b) Street-car accidents	....	....	....	1	....	....	....	1	1	....	....	....	3
	*(c) Automobile accidents	....	....	1	....	....	1	2	1	1	....	....	....	6
	*(f) Injuries by other vehicles	....	....	1	....	....	....	....	....	....	....	....	....	1
	*(g) Landslides, other crushing	....	....	....	1	....	....	....	....	....	....	....	....	1
193	Excessive cold	....	....	....	....	....	....	....	....	....	....	1	....	1
196	Other accidental electric shocks	....	....	....	1	....	....	....	....	....	....	....	....	1
197	Homicide by firearms	....	....	....	....	1	....	....	....	....	....	....	....	1
199	Homicide by other means	....	....	....	....	2	....	....	....	....	1	....	1	4
202	Other external violence	....	1	....	....	1	1	1	....	....	....	....	1	5
	Totals, Class XIV	7	5	6	5	9	6	7	9	9	5	4	13	85
	XV.—Ill-defined Diseases													
205	Cause of death not specified or ill-defined:													
	*(a) Ill-defined	2	....	....	....	....	....	....	....	....	....	....	....	2
	Totals, Class XV	2	....	....	....	....	....	....	....	....	....	....	....	2
	Grand Totals	164	137	138	150	156	107	95	102	115	125	111	144	1,544